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FIG. 1. 'ULAGA' FROM ACHALLA



FIG. 2. 'ULAGA' FROM UMUGWEDO



FIG. 3. 'OJI ONU' FROM AGULU



FIG. 4. 'ULAGA' FROM IDEMILI



FIG. 7. FROM OKIGWI



FIG. 8. FROM OKIGWI

# IBO HEADDRESSES COMBINING HUMAN AND ANIMAL FEATURES

*Photographs by K. C. Murray*

# IBO HEADDRESSES COMBINING HUMAN AND ANIMAL FEATURES★

by

K. C. MURRAY

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Wooden masks combining human and animal features in one carving are common among the Ijo of Southern Nigeria, as Mr. William Fagg states in his recent article (MAN, 1947, 113). These carvings sometimes include other things besides, such as aeroplanes, trees and birds, in a manner suggestive of the designs of Surrealist art: the features of the face are always extremely formalized. The most distinctive characteristic of the Ijo style of carving is that the masks are really headdresses, to be worn like caps on the top of the dancer's head, with the human features looking up at the sky instead of in an upright, natural position looking forward. This does not, however, apply to all Ijo headdresses, nor do we always find several kinds of objects and beings combined in one carving. Some headdresses with human faces are carried vertically; others, unmixed with fish, animal or bird, look upwards. Others again are straightforward representations of fish or bird carved on an oval base or cap. Nevertheless, the conception of a carving carried on top of the head with a human face looking up at the sky, often with horns and a prolongation of what would be the chin into a fish's, animal's or bird's mouth, is Ijo and is not found, except perhaps very exceptionally, or by derivation from the Ijo, in the carving of adjacent peoples (I have had no opportunity to make a close study of Sobo carving). The type has a distribution in Nigeria along the creeks near the sea from Epe near Lagos to Opobo in Calabar Province. The carvings usually represent water spirits, and an explanation commonly given for the position of the face is that they were originally copied from spirits seen floating or sunning themselves on the surface of the water. The people living along the Nigerian creeks show a markedly superstitious interest in any unusual object that appears in the water.

Carvings embodying the same conception occur also among the Ibo, but only in an area near Onitsha—from Aguleri in the north to the boundary between Orlu Division and Onitsha Province in the south, and eastwards as far as Okigwi. In view of this limited distribution and the fact that no carvings of related design are found elsewhere among the Ibo, the type is unlikely to be an Ibo invention, and it seems a reasonable assumption that its general form was copied from the Ijo. It is noticeable how often Ibo carvings show influences from the art of neighbouring peoples, which influences, if plotted on a map, would appear like fingers spreading into Iboland. The Ibo are great borrowers, and it is common now to find instances

where traders have been responsible for the introduction to their home district of a play that they saw during their travels. It is probable, therefore, that Ibos trading along the River Niger introduced this Ijo design of headdress to the district round Onitsha.

There are two main varieties among the Ibo of this distinctive type of carving: one clearly has a bird's (probably a hornbill's) head, and the other has an elongated, rectangular 'mouth' that might represent bird, fish or animal.



FIG. 5. 'OJI ONU' FROM OZUBULU

They are called, according to the clan, either *ulaga* or *oji onu*, and sometimes both names are used in the same clan but for different carvings: *oji onu* is described as a 'singing juju' and *ulaga* as one that 'beats' people. They are used at festivals and funerals by members of the *mmo* society.

The first variety, *ulaga* from north-west of Awka, is shown in figs. 1 and 2, from Achalla and Umuigwedo respectively. They both distinctly have a human nose and forehead in a horizontal position together with the head of a bird with a curved beak and a pair of ram's horns, which are similar to those on some of the Ibo figure-carvings

★ With Plate A and 3 text figures

called *ikenga*. The *ulaga* are male spirits; this is shown by the carving from Achalla, which has cicatrizations on the forehead like the *ichi* marks worn by men who have taken title. The Umwigwedo carving is a more curvilinear type of composition and has two small 'medicine' pots on top of the horns. Both carvings have a stand, the conical shape of which would help to secure the cloth or raffia hangings which hide the dancer's face; holes in the base are for tying the carving on the head. In both carvings the eyes have been given their correct place in the bird's heads but have been omitted from the human faces. This is a variation from Ijo fashion, for the Ijo represent the eyes in such headdresses by cylinders standing vertically below the forehead. These *ulaga* carvings are not slavish copies of Ijo work but are re-interpretations. Their age is estimated at about twenty years, and the fact that they are the work of different carvers suggests that the form has been in existence with the Ibo for some time.

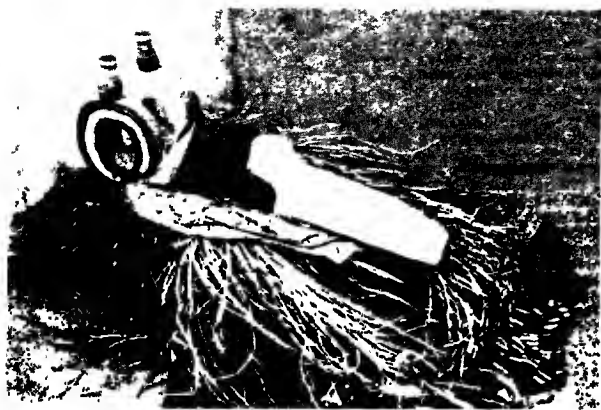


FIG. 6. 'ULAGA' FROM IDEMILI

The other variety is illustrated by an *oji onu* from Agulu, south of Awka (fig. 3), and by an *ulaga* from Idemili, south of Onitsha (fig. 4). In the general form of human face, horns, pots of medicine and *ichi* marks it resembles figs. 1 and 2, but the 'mouth' is severely rectangular and is not recognizable as that of a bird. Since birds' beaks occur frequently in Ibo carving it is unlikely that the shape of these 'mouths' is due merely to the clumsiness of the carvers. Their form may be due to fantasy combined with memories of Ijo carvings. Ibo carvers do not usually attempt verisimilitude, and when they do it is apparently because the chosen form corresponds to an imaginative conception.

An *oji onu* with a different type of carving, seen performing at Ozubulu near Newi in 1938, and called *oji onu egbu oji*, confirms that birds, and not fish or animals, are meant to be represented (fig. 7). The headdress is a rectangular box, ornamented with mirrors, with a large wooden beak sticking out in front. The wearer spoke with a hoarse and

quivering voice and walked with careful bird-like steps supporting himself on a stick. No part of his body was visible, for the ends of his trousers and sleeves were closed like bags and a cloth covered his face.

Another variety of the basic type, an *ulaga* from Idemili, is shown in fig. 8. In this the rectangular mouthpiece has been shaved off to a more bird-like shape. Aesthetically it is a less effective design than figs. 1 and 4, giving a feeling of being unfinished or of indecision. It is probably the work of a carver who had the desire but lacked the skill to break away from the prototype.

The headdresses shown in figs. 5 and 6 are from Okigwi District, which is the farthest east that this style has spread in the Ibo country. They come from different clans, but both have square 'cheeks' and no horns.

A peculiar variety of an *oji onu* at Idemili is shown in fig. 9 and is suggestive as evidence that the design with the head looking up at the sky is not of Ibo origin. In this case



FIG. 9. 'OJI ONU' FROM IDEMILI

the carving has the face in an upright and normal position and is more like the usual Ibo style. The dancer, however, looks out through a cloth below the headdress, which is made up of two masks fitted back to back or against a ruff of raffia. The elements that make up the previous carvings can be recognized: the human face, the bird's beak and the horns. The horns are on the sides of the face and end in a human head. On top of the mask is a cock, whose two tail feathers can be seen hanging over the top of the rear mask. This carving appears to be unique in Onitsha, but near Port Harcourt there are masks, probably copied from the Ogoni tribe, which have mouths in the form of birds' beaks.

Carved anthropomorphic heads, usually with horns and worn on top of the head, also occur in various places about the Benue River, but not along the Cross River. There is no existing geographic connexion between the Ijo and Benue work: the Ijo style has disappeared along the Niger before the Benue type begins.

# A NOTE ON AFFINITY RELATIONSHIPS AMONG THE NUER

by

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2 Payment of bridewealth brings about conjugal relations between husband and wife and also relations of affinity between the husband and his kin on the one side and the wife's kin on the other; and between the wife and her kin on the one side and the husband's kin on the other. Payment of bridewealth erects a scaffolding of behaviour patterns within which the union of marriage is built up. Once it is firmly established by the birth of children their place is taken by kinship norms, and as affinity relations are gradually transformed into kinship relations, bridewealth loses its immediate function and ceases to have any great influence in shaping personal attitudes.

Before the birth of her first child a wife lives in her parents' homestead, and is there visited at night by her husband. His existence is hardly acknowledged by his wife or her kin, and if there is any need to refer to him they speak of him as *co*, the husband of, followed by the name of their daughter. After she has weaned her first child the wife joins her husband in his village, leaving the child to be brought up by his maternal grandparents in their village (*cieng mandongni*) should they be alive, but until the second child is born the husband is still scarcely recognized by his wife's parents. Her kin continue to refer to his village as his wife's village, as though he did not exist, and they speak of his children by reference to her name and not to his. Thus a man is spoken of as *gat* (son of) so-and-so, after his father, in his father's district, and as *gat* so-and-so, after his mother, in his mother's district. Hence, if a husband takes up residence in his wife's village and their descendants continue to live there, the lineage which derives from the pair often takes its name from the wife and not from the husband. It is also customary for the wife's people to give her children different personal names from those given them by their father's people, though the pairs of names are sometimes related in meaning, e.g., Deng and Nhial, Tiop and Mun, and Kunwar and Buth.

Nevertheless, after the birth of the first child the marriage is held to have become a complete union. Through his child the husband is thought to have a kinship link with his wife's kin, to whom he is then *guan* so-and-so, the father of their (daughter's) child, and not merely *co* so-and-so, the husband of their daughter. Instead of paying clandestine visits to the home of his parents-in-law he may visit them openly, though he must continue to treat his in-laws, particularly his parents-in-law, with great respect (*thek*), expressed emphatically in the prohibitions on eating in their home and appearing naked before them.

Even before a young man has started to look for a bride he will not generally eat with much senior men, unless they are kin, because one of them might become his father-in-

law. Once he has asked for a girl's hand in marriage he may in no circumstances eat in her home, and the prohibition continues, sometimes greatly to his discomfort, until two or three children have been born, when it is relaxed by a formal ceremony if the parties are on good terms with one another. The father-in-law prepares beer, kills a goat or sheep, and invites the son-in-law and his kin to his home to partake of a feast. He tells his son-in-law that there is no need for him to respect his parents-in-law any more. He will refuse to eat, however, till compelled to do so by the insistence of his father-in-law's kin and by his father-in-law's gift of a cow: the *yang mieth co nyal*, the cow of the eating of the husband of a daughter, to *cocangnyade*, his daughter's husband's brother. This ceremony is sometimes held when a young sister of the wife is about to be married, so that her husband may take part in the nuptial feasts. Later, the father-in-law visits the homestead of his daughter's husband's brother and will be given beer and meat. Before he can eat or drink he must be given a bull calf or sheep (the *yang gwanthi*, cow of the father-in-law, or *yang mieth*, cow of the food) by the owner of the homestead. His daughter's husband is now said to regard him as a father. Before these payments have been made, a son-in-law is to his father-in-law and his wife's paternal uncles in a position like that of the kin of a slayer to the kin of the man he has slain in that they cannot eat in one another's homes. After payments have been made it is said that *ruaa* (*ciengthu*), in-laws, have become *mar*, kinsmen. The maternal uncle of a wife, who is also *gwanthi*, his father-in-law, may likewise give her husband's brother a goat to enable the husband to eat in the homes of his wife's maternal kinsmen.

A son-in-law also respects his parents-in-law by hiding his nakedness in their presence with a genet's skin (*tiwac*) from the day he asks for their daughter's hand in marriage till the day his brother receives a cow to enable him to eat in their home. While the prohibition is in force a son-in-law who is living in the same village or camp as his parents-in-law avoids them as far as possible even when he is wearing a skin. Apart from it being a serious breach of etiquette, it is thought that were a man's nakedness to be seen often by his parents-in-law his children might become blind. A son-in-law must also wear sandals when visiting his mother-in-law, as he is dangerous (*ther*) to her should he visit her barefooted and might cause her to become barren. There are various other customs indicating the mother-in-law to son-in-law relationship, such as the obligation (with a *biit*, curse, as its sanction) on the survivor, should either die, to visit the grave a few days after burial and throw a bracelet on it. Also a son-in-law must not

visit his parents-in-law when they are sick, and they must not visit him when he is sick. A man avoids his mother-in-law and her attitude to him is one of shyness and reserve (*dual*). Unlike fathers-in-law and brothers-in-law, who ask a husband directly for whatever they want, a mother-in-law trusts that her son-in-law will remember her wants or, if in great need, must ask him for a gift through her daughter. The mother-in-law relationship among the Nuer is a subject of mirth and the foulest slips of the tongue are attributed to mothers-in-law when talking to their daughters' husbands.

All these rules regulating the behaviour of a man to his parents-in-law, and the avoidance and the attitude of reserve which accompany them, are eased after the birth of a second child and slowly break down as patterns of affinity change into patterns of kinship, the husband becoming 'the father of our daughter's children' instead of 'our daughter's husband.' A man may even joke with his mother-in-law when there are several children and formal avoidance has broken down.

The rules about eating and nakedness apply, though in a lesser degree, to other kinsfolk of the wife than her parents, for all her kinsfolk are her husband's in-laws. A man will not appear naked or eat in the homes of his wife's paternal and maternal uncles and aunts or appear naked before the wives of his wife's close kinsmen. I have seen a man's wife's paternal aunt (*wac*) make a great fuss when unintentionally he appeared naked before her. He knelt behind another man to hide his nakedness and receive her reproaches when he became aware of his misdemeanour. On another occasion when I was present the fuss was made in similar circumstances by a bride's paternal uncle's wife while the astonished bridegroom hastily retired into a hut. Unintentional affronts of this kind are quieted by small payments, such as a spear or a goat. As the genealogical distance from the wife increases, the obligation on the part of her husband to observe these rules lessens. It altogether ceases when the wife's father and maternal uncle have paid beasts to enable him to eat in their homes. Should a divorce take place the son-in-law at once ceases to treat his in-laws with respect.

The wife's brother (*demanthu*) is not avoided, though her eldest brother may refrain from eating with the bridegroom before a child has been born. Nuer say, 'the wife's brother is your brother; since he gave you his sister he became your brother,' and 'the husband of your sister (*conyimor*) is your brother because he will get a cow (the *yang waca*) on the marriage of your daughter.' After the birth of children a man and his wife's brother can jokingly curse one another in obscene language (*kwith*). The wife's brother's wife (*cick demanthu*) is highly respected till a child has been born, though not to the same extent as the mother-in-law, unless the mother-in-law is dead; then 'she becomes your mother-in-law and must be respected as deeply as a mother-in-law.' Nuer say that she then becomes your real mother-in-law and that '*caa mandong*,' 'she has become a grandmother' (to the children of her husband's sister, who call their maternal uncle's wife 'grandmother'). The only in-law whom a man need not

respect is his wife's sister (*nyimanthu*). He can joke with her and even engage with her in the formalized exchange of obscenities which the Nuer call *leeng*. However, if his mother-in-law is dead he treats her eldest daughter with more reserve, for she has then taken her mother's place: 'she has placed the food on the fire' (at her mother's mortuary ceremony). A man may not marry his wife's sister unless his wife has died childless. A man and his wife's sister's husband, whom he calls *waarombaida*, may be on intimate terms.

It is only when the bride is still a maiden (*uyal*) that the fathers and uncles and brothers of the bridegroom are reserved with his parents-in-law. After the marriage is consummated only the husband's father or, if the father is dead, his eldest brother (*deman indit*) will respect his parents-in-law and only to a small extent, not usually with regard to nakedness and food. Nevertheless, it is customary for the father of the bridegroom to give the father of the bride a spear or goat, and for the father of the bride to make him a similar gift to enable the two men to eat in one another's homes without shame. A husband's younger brothers do not in any way respect his in-laws and they eat and go naked in their homesteads. For this reason, though a man assists his parents-in-law in many ways, when he is asked to hoe his mother-in-law's gardens he sends his brothers and friends and stays at home himself. The work will be rewarded with beer and porridge, and they can eat in the home of his parents-in-law, whereas he cannot. On the other hand, it is customary, at any rate in the Lou tribal area, for the youth who acted as the husband's best man in the marriage ceremonies to respect his in-laws till they give him a goat to break down his reserve.

Obviously the wife is in a different position *vis-à-vis* her husband's people from that in which her husband is placed *vis-à-vis* his wife's people. Nevertheless, whilst avoidance is impracticable she has to treat her parents-in-law with great respect and in the early days of her marriage has to keep herself apart from them as much as domestic requirements permit. She must not eat with her mother-in-law, and this prohibition may continue for some years after the birth of her first child. She cannot eat in her husband's home at all before the birth of her first child, and even after this event, when she has come to live with him, she must not see him eat or be seen eating by him. However, the inconvenience of this prohibition is evident, and soon after she has taken up residence in her husband's home it will be arranged that her husband enters a hut in which she is eating as though by accident. After this it is no longer shameful for husband and wife to see one another eating, and though the wife is at first shy she will eventually share her husband's meal when they are alone. Before the birth of her first child a woman respects her husband's sisters and will not eat out of the same dish with them. After the birth of a child she can be on free-and-easy terms with them, though personal difficulties sometimes make for reserve. Should the mother be dead, her eldest daughter tends to take her place in the family, and this affects her relationship to her brother's wife. A woman refers to her husband's sister as *mancoada* (my husband's mother).

Just as the husband need not respect his wife's sister but is on familiar terms with her, even exchanging obscene jokes, so his wife is on similar terms with her husband's brothers. Among brothers the wife of one is in a general social sense the wife of all. A man seldom refers to his brother's wife as *ciek demar*, the wife of my brother, but as *ciek goala*, the wife of my home, and she refers to him as *gwan gaunko*, the father of our sons. The child of a co-wife would never be addressed by her as *gat nyakda*, the child of my co-wife, but as *gatda*, my child. The word a wife uses to refer to her husband's brother (mostly for his younger brothers) is *cocangda*, which seems to mean 'my husband of the day-time' as distinct from the husband of the night, the real husband, for Nuer say '*co rar gule, co war gule*,' 'the husband of the outside is different, the husband of the night is different.' Here again, though relations between a wife and her husband's brothers are free and easy, should her father-in-law be dead the eldest brother takes his place as the head of the family and must be treated with deference. When she has borne several children she and her husband's brothers and paternal cousins may curse (*kwuth*) each other in foul language. In the horseplay which takes place when freshly initiated youths pass out of seclusion it is the *cocangda*, generally a paternal cousin of the husband, who lifts up the skirt of a mother of an initiate and spits and utters a cry.

A woman enters her husband's home as a wife of the home. She also enters it as the mother of a child of her husband's lineage and therefore, through the child, as a kinswoman. Through the child she has kinship rights in the home of her adoption by marriage. '*Jigoala*,' 'people of my home,' is a woman's favourite ejaculation, and the term by which she refers collectively to the domestic society of which she regards herself as a member. The expression was constantly on her lips before marriage in reference to her parental family and kin. When she comes to live with her husband it is still constantly on her lips, but it then means

the people of her husband's home, for they have become her people and she now identifies herself with them and not with her father's people.

When a woman joins her husband she comes under the protection of his lineage spirits and his ancestral ghosts, and when she builds a *buor*, a mud firescreen which symbolizes family life to a woman, they are summoned by her husband's father to come and abide there. On the day she constructs it her father-in-law pours over it beer and butter and utters some of the usual Nuer formulae employed on such occasions. When beer is brewed the wife pours a little at the side of the firescreen and a sacrificial goat or sheep is often tethered there for the ghosts to see it before it is killed. When the woman who owns the hut has a grandchild, a *gat nyade*, a son of her daughter, she summons the boy to come and break down her firescreen and sacrifice a goat. Since a wife is accepted by the ghosts and spirits of her husband's lineage she may perform ritual for that lineage in which invocation of its ghosts and spirits forms part.

But though a woman joins her husband's group and becomes part of it, she never entirely ceases to belong to her own family and lineage, under the protection of whose ghosts and spirits she remains. If she is ill treated by her husband she will ask her father and uncles to help her. On the other hand, should she in a quarrel with her husband disfigure him—knock a tooth out, for example—her father must pay him compensation. I have myself on two occasions seen a father pay a heifer to his son-in-law to atone for insults hurled at the husband's head by his wife when irritated by accusations of adultery. When her husband dies, a widow often returns to her parental home and continues to bear him children there by lovers. As already mentioned, it often happens that a husband comes to live with his wife's people. In this case the wife joins her husband in a narrow domestic sense only. She does not attach herself to his lineage group, but he attaches himself to hers.

## ROYAL ANTHROPOLOGICAL INSTITUTE PROCEEDINGS

### Ancient Mining and Metallurgy Group: Preliminary Report, Part I

#### 3 *Introductory Note by the Chairman*

Since the formation of the Group in 1945 attention has been paid to the problem of native copper and its use in prehistoric times. The subject is a complex one and will entail very considerable work before real progress can be made; it is, however, considered appropriate to issue the following preliminary report to serve as a statement of the problem, and to indicate the lines upon which it is hoped to conduct further research.

The committee is indebted to Drs. Plenderleth and Moss, of the British Museum Research Laboratory, for the following suggestions concerning the information required in order to make a scientific attack on the problem:

A. A geological and mineralogical statement must be prepared on the formation and occurrence of all types of copper minerals including native copper. This will be an essential contribution to an enquiry on the significance of impurities

B. A statement is needed in the light of A on the physical and or chemical differences to be expected between native and smelted copper, whether cold-worked or cast.

C. We should like the geologists and mineralogists to undertake to assemble (for laboratory reference purposes) a collection of specimens of native copper from all recognized sources together with accompanying minerals and specimens of other copper ores from the same districts.

D. A start should be made very soon by the archaeologists to compile a list of copper artifacts, from the same regions as C, that are likely to be worthy of examination.

The Group's sincere thanks are due to the Copper Development Association for the very large amount of work which they have done in the provision of analyses of various native coppers, and to Dr. Voce for his report upon these analyses (to be published as Part II of this report). Our thanks are also due to the various museums who have so kindly lent specimens for spectroscopic examination—in particular to the Geological Museum, the



British Museum (Natural History), the Pitt-Rivers Museum, Oxford, and the University Museum, Oxford. The British Museum, Bloomsbury, has kindly accorded laboratory facilities, without which it would be impossible for the Group to carry out further research. Its work has been materially assisted also by a grant from the Institute of Mechanical Engineers.

H. H. COGHLAN

### Archaeological Note

In 1876 F. Pulszky first proposed to the International Congress of Prehistoric Anthropology and Archaeology to enlarge the Three Period system of Stone, Bronze and Iron Ages by the intercalation of a Copper Age after the first. Its distinctive feature would be the use of native copper instead of bronze, and it was supposedly illustrated by a voluminous and distinctive assemblage of relics from Hungary—in the nineteenth-century sense of that name. Pulszky actually showed by analyses that the relevant objects were made of unalloyed copper, but with the technical resources then available could not adduce scientifically exact criteria to show either that they were made of native copper or whether they had been worked by hammering alone or cast. Hence, in the sequel the term Copper Age has generally been applied to any phase when implements were made of unalloyed copper but not of bronze, e.g. Troy I as contrasted with Troy II.

This usage, however, is deplorable. The discovery of copper smelting is a more difficult scientific achievement involving as it does a very unexpected chemical transubstantiation, and has also had much more far-reaching practical results than the discovery of any copper alloy: it will be recalled that unalloyed copper alone was used in South Russia down to the Iron Age, and that it was commoner than bronze in Egypt and the Hittite Empire even in the fourteenth century. Secondly, the beginning of metallurgy has been equated with the recognition that copper is fusible as well as malleable. Hammer treatment alone still belongs to a Stone Age technology.

Now the part played by the use of native copper in the development of metallurgy is still debated. Some, like Elliot Smith, have held that the reduction of copper ores and casting were discovered simultaneously. On this view a Copper Age in Pulszky's sense would be a local phenomenon, confined to some favoured districts like the Great Lakes region and Hungary, which by itself never led on to metallurgy. It would not therefore constitute a technological stage deserving terminological recognition. So for the history of this branch of science it is essential to determine how far native copper was in fact used before the metal obtained by smelting from its ores, and whether and to what extent such native copper was cast.

V. GORDON CHILDE

### The Geology of Copper from the Archaeological Point of View

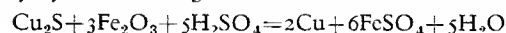
The main question now before this committee is whether there are any means of recognizing the locality from which the metal in a given copper object was obtained. The information already available on the subject has been conveniently assembled, with full references, by J. R. Partington (*Origins and Development of Applied Chemistry*, 1935).

A copper implement or vessel may be formed (a) from native copper by hammering, (b) from native copper by fusion, (c) from copper obtained by smelting ores. To distinguish (a) from (b) is for the metallurgist, the geological factors being identical.

On the mode of occurrence in nature of native copper Dr. K. C. Dunham, petrographer to the Geological Survey, writes as follows:

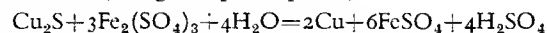
The native metal occurs in copper deposits (a) as a primary mineral, (b) in the oxidation zone where special conditions are believed to have existed.

Primary copper deposits in basaltic lavas and pyroclastics form the most important type; here the associated minerals characteristically include zeolites such as analcite, natrolite, stilbite, chabazite and laumontite, and other minerals commonly found are prehnite, datolite, calcite, quartz, chalcedony, chlorite and adularia. Such deposits are worked on a large scale in the Pre-Cambrian Keweenaw basalt and basaltic conglomerates of the Lake Superior region, U.S.A.; they have been described in detail by B. S. Butler and W. S. Burbank ('The Copper Deposits of Michigan,' *U.S.G.S. Prof. Paper* 144, 1929). Other examples include the Triassic traps of New Jersey and Connecticut, the Kristiania region of Norway, the Faeroes, Osterstein a.d. Nahe in Germany, and Sao Paulo, Brazil. Lindgren has suggested (*The Mineral Deposits*, 3rd ed., 1928, p. 514) that the Monte Catini deposits near Leghorn are of similar type. In these cases the metal was probably deposited by hydrothermal action—perhaps connected with late stages of the vulcanism—and at shallow depth. R. C. Wells ('Chemistry of the Deposition of Native Copper from Ascending Solutions,' *U.S.G.S. Bull.* 778, 1925) believes that copper sulphides in the hydrothermal solutions were oxidized in contact with hematite in the lavas to sulphates from which copper was deposited, possibly by the following reaction:



A minor type of primary native copper deposit is exemplified by Coro-coro, Bolivia, where the metal is worked in a possibly Permian sandstone in which it occurs in a disseminated form, with native silver, domeykite and chalcocite.

Secondary deposits of native copper are found in some places associated with the oxidation zone over copper sulphide deposits. Surface and near-surface oxidation of chalcopyrite yields copper sulphate solutions which produce chalcocite,  $\text{Cu}_2\text{S}$ , by reaction with pyrite in the zone of enrichment at the base of the oxidation zone. Liberation of ferric sulphate in the process may bring about reduction of the chalcocite to the native metal (Lindgren, *op. cit.*, p. 950):



Native copper in Cornwall probably originated in this way or in some comparable manner. One of the best American examples is the Chino disseminated copper deposit, Santa Rita, New Mexico.

Copper may also be formed by the reduction of cupreous solutions by carbonaceous matter, wood, etc.

It should be pointed out that what the geologist calls the 'surface zone of oxidation' includes all depths reached by waters, etc., percolating from the actual surface: consequently all copper deposits with which the archaeologist can be concerned are included here. On the whole it seems probable that impurities (mainly rare elements) which might be expected to serve as pointers to localities are as likely to be found in primary as in secondary deposits of native copper, and the distinction is of little importance in archaeology.

The native metal is easily separated from all extraneous matter: such impurities as might be present in the substance of the metal are likely to need estimation in parts per million rather than in percentages. In geology and to some extent in mineralogy such fine analysis is in its infancy and far behind the present standard in the biological sciences. The necessary work must be done by or for this committee, few, if any, published figures being available. One or more laboratories with suitable spectroscopic equipment are essential.

The task is likely to be a big one. With elements reckoned in parts per million there is as yet no evidence to suggest that an estimation made on a small fragment of a single specimen is in any way representative of the mineralized area as a whole, or even for all parts of the specimen submitted. Thus, among the analyses already circulated to the Group (see Part II, Table II), two are of

copper from the Lizard, a comparatively small area in Cornwall; the amount of nickel in the second (No. 1B) is six times that in the first (No. 1A). The specimen from Tavistock (No. 5) shows only one-hundredth of that in No. 1B, while of two estimations for Broken Hill (No. 16) one shows a hundredth and one a twentieth of this amount. Obviously no general statement which could localize a specimen of copper can be based on such figures. The chance that sufficient analyses to be of value for our purpose will ever be made, or even that sufficient material for such analyses will ever be available, seems remote.

For copper obtained by smelting ores, of which, in early times, the carbonates alone are of importance, the position is very different. The natural copper carbonates, malachite and chrysocolla or azurite, are always accompanied by other mineral substances, and separation prior to smelting is unlikely to be anywhere near complete. Chrysocolla, the hydrated silicate of copper, is often found in small quantities accompanying the carbonates; it is of no consequence to the archaeologist, except that it may be a cause of variation in the silica content of the product. Lead is always to be expected; the azurite and malachite from the Altai district are accompanied by cerussite (lead carbonate). At Laurion, near Athens, the copper was almost certainly worked before the purer argentiferous galena (lead sulphide) was reached; zinc ores are abundant—in fact, one readily fusible zinc mineral was first named from this locality. In the Urals, where native copper is abundant, the carbonates are accompanied by the other usual minerals: some chalybite (iron carbonate) is likely to be present in all mineralized regions. It has been stated that in Cyprus the amount of arsenic present is unusually low; it may be found that this applies to the native copper as well as to the general assemblage of ores. The contents of bismuth and of antimony may have some value: Partington (*op. cit.*, p. 54) suggests that the antimony given in early analyses of Egyptian copper may in fact have been bismuth. As the work progresses the absence, or near-absence, of a common impurity may be almost as useful a pointer as the presence of a rare constituent.

It will be seen that the above comments make contact at several points with the memorandum from Drs. Plenderleith and Moss, received after they were drafted. It is to be feared that the suggestion in their paragraph C, though ideal, is quite impossible of fulfilment; some steps in this direction might, however, be practical. A more hopeful line seems to be to tackle their requirement D first. If any object or group of objects should be found to contain any unexpected and unusual elements, the source might be run down with considerable probability, whereas the proportions of the usual impurities mentioned above are never likely to be of value.

C. N. BROMEHEAD

## Results of a Recent Expedition to Tierra del Fuego.

By Professor Alexander Lipschutz, Santiago de Chile. Shortened Version of a Communication to the Institute, 12 November, 1946

In January, 1946, we went to Tierra del Fuego to study the Fuegian tribes.<sup>1</sup> The programme included transculturation phenomena and physical anthropology. We spent six weeks in Tierra del Fuego, moving to the different islands by air, thanks to the goodwill of the Chilean Air Force, the local authorities, the sheep-farming companies, and the white settlers; and the Fuegians

themselves were most helpful. Detailed results referring to the physical characteristics of the Fuegians and to certain social aspects of racial problems are in course of publication in the *American Journal of Physical Anthropology*; the findings recorded here relate to the origin of American man and the cultural potentialities of the Fuegians.

*The origin of American man.* This problem has been discussed ever since the Spaniards set foot on the new continent. Though the ideas expressed by Oviedo, de Acosta, Herrera, Torquemada and Solórzano between 1535 and 1629 were often confused, three essential aspects became clear: first, the native population of America was the result of an immigration from abroad; secondly, the immigration was principally from Asia; and thirdly, there may have been other secondary sources of immigration across northern or southern polar regions. The first and second aspects may be considered as definitely settled. There are no fossil remains in America which would indicate that man originated in America. On the other hand, the physical characteristics of the American Indians, though varying from north to south, are so similar to those of the Mongoloid Asiatic that the assumption of an immigration from Asia across the narrow Bering Strait seems fully justified. Hrdlička's *Alaska Diary* (1944) provides the latest contribution to the concept of the Asiatic migration to America conceived as early as 1584 by de Acosta.

The idea of an immigration across the southern polar regions was also developed by the end of the sixteenth century. In modern times Rivet has produced ethnographical arguments for an Australoid influence in the most southerly parts of the American continent and for certain linguistic coincidences between Australian and Patagonian tribes. Various authorities, using craniological data (skulls of Onas), claim Australoid somatic characters for the Fuegians. More recently certain findings about blood groups in one of the Fuegian tribes, the Yámanas, also seem to indicate their physical difference from the rest of the American Indians.

The problem before us was whether in their physical characteristics the Fuegians would conform with the Asiatic or Mongoloid Indian type. There was no question of basing our conclusions on somatic measurements, because there are only about 200 Fuegians surviving (Onas, Yámanas and Alakalúfs together). There is also much miscegenation with Whites; more than half of the Fuegians are now mestizos. We therefore decided to rely on a photographic survey, as complete as circumstances would allow, with the purpose of comparing the Fuegians with the varied racial types of the American Indian, with their characteristic quality and distribution of hair, high cheekbones and slit eyes. The photographic survey of 67 Fuegians was accompanied by an inquiry into the tribal and family relations of every individual.

*Photographic survey and ethno-genetic inquiry.* The full-blood Onas, one man and four women, fully conformed to the Indian type in the above-mentioned characteristics. Nobody would doubt their Mongoloid facial traits. Some of the five supposedly full-blood Yámana men did not betray by their facial traits their Indian origin, but the features of a boy of ten and of the five full-blood Yámana women were mostly pronouncedly Mongoloid, as were those of nine persons of Yámana extraction supposedly miscegenated with Alakalúfs. The mestizos were in no way different from those of South America in general. The Alakalúfs showed the same distribution of hair as Onas and Yámanas, and as Indians in general: but the eyes were less set, the cheekbones not so high. The lips were fleshy.

*Craniological data.* Fifteen skulls, kept for about forty years at various institutions in Punta Arenas as belonging to Fuegians, were examined by Mr. Feldes of our mission. The average indices are coincident with those of Mongoloid ones.

<sup>1</sup> The membership of our expedition was as follows: Haus Helfritz (cameraman); Dr. Grete Mostny (ethno-genetic inquiry); Mr. Fidel Feldes (craniology); Dr. Antomo Santiana and Dr. Luis Robin (guest members—blood groups); Mrs. Margaret Lipschutz (collaborated in survey of physical characteristics); General Ramón Cañas-Montalva (geographical adviser); Dr. Juan Damiánovič (medical examination of subjects); Lt.-Col. Gustavo Luco (administration).



*Blood groups.* A total of 77 individuals were examined, including all we were able to meet, or more than half, of those we registered as being of Ona or Yámana extraction. Group O greatly predominated in all the three tribes. The percentage of O—70–80 per cent.—was the same as in American Indian populations miscegenated with Whites. All the individuals who were supposedly full-blood Indians, according to the inquiry made by Dr. Mostny independently of the blood-group examinations, were of group O.

*Comparative physical characteristics of Fuegians and American Indians.* Rivet has referred to the 'family likeness' between the various American Indian tribes, in spite of the tribal differences in physical characteristics. The same American Indian family likeness is to be found in Onas, Yámanas and partly also in Alakalufs. Their facial traits, the quality and distribution of hair on the body, their blood-group percentage are all in entire agreement with what is known about these characters in American Indian populations. The cranial indices also show that Australoid characters, if present among the Fuegians, are by no means common. Where Fuegians show non-Mongoloid traits, they resemble Whites, most probably owing to miscegenation.

Though we feel less sure as to the Mongoloid traits in Alakalufs, where our observations were not sufficiently numerous to allow definite conclusions, we found insufficient grounds for considering the Fuegians to be of different racial origin from the autochthonous American population. If linguistic findings indicate an Australoid cultural influence, this could mean only an occasional contact with, or immigration of, Australoid elements, not sufficiently numerous to affect the average physical characteristics of the Fuegians.

*Cultural potentialities of the Fuegians.* In 1832 Darwin wrote in his diary of a group of Fuegians on Wollaston Islands: 'These poor wretches were stunted in their growth, their hideous faces bedaubed with white paint, their skin filthy and greasy, their hair entangled, their voices discordant and their gestures violent. Viewing such men, one can hardly make oneself believe that they are fellow-creatures, and inhabitants of the same world.' This and similar statements of Darwin's have greatly influenced the general opinion of the 'cultural potentialities' of the Fuegians and of primitive tribes in general. But it is the opinion of our mission and of the civil and military authorities and white farmers that the Fuegians are in no way different from other human beings in character or intelligence. The social relations of the Whites and the Fuegians are good, and are like those between different social strata in a racially homogeneous ethnos. For about thirty years the Fuegian has been in a state of transculturation, and we must therefore refer for comparison to the Fuegian of bygone times. Darwin first saw Fuegians on the 17 December, 1832, on Isla Grande de Tierra del Fuego; he wrote in his Diary: 'The language of these people, according to our notions, scarcely deserves to be called articulate'; but the *Yámana-English Dictionary* of Thomas Bridges contains 32,000 words. Though Darwin underrated the cultural achievements of the Fuegians, he did not draw conclusions about their cultural potentialities: he wrote that he 'could not have believed how wide was the difference between savage and civilized man: it is greater than between a wild and domesticated animal,' but added 'inasmuch as in man there is greater power of improvement.'

As to the cultural achievements of the Fuegians, Gusinde, the best authority on the Fuegians of about thirty years ago, states in his classic treatise on them: 'The Fuegian was successful in adapting himself to his geographical surroundings in such a way that in the given conditions adaptation could not have been better . . . it was by the geographical surroundings that unsurmountable limits were put to the cultural progress of the Fuegian. . . . The cultural achievements of the Fuegians reached that utmost

perfection which material circumstances allowed. . . . The intellectual and other psychical capacities of a racial or ethnic group cannot be estimated on the basis of our own European standards, and even less by the psycho-technical laboratory methods so often used. The only measure of these capacities is the adaptation to the geographical surroundings achieved by the group.

The Fuegians are now on the way to complete cultural and biological extinction, owing to contact with the European civilization. The reasons for this are complex, but it is fundamentally due to the fact that the Europeans did not desire the survival of the Fuegians. Yet the Fuegians have left their cultural inheritance to the Europeans, who followed the Fuegian track in Tierra del Fuego; they were the pioneers of European civilization there, for they proved that these lands are habitable, even for a people equipped only with a primitive culture created on the spot.

### Trade and the Exchange of Goods on Manam Island.

*Summary of a Communication by the Hon. Camilla Wedgwood to the Institute, 4 November, 1947*

Manam Island lies off the northern coast of New Guinea about 4 degrees South, and is inhabited by a people of mixed ethnic types. Culturally they are akin to the natives of the other Schouten Islands, and in most respects differ greatly from those of the neighbouring mainland. Manam itself is not very fertile and for certain things, notably stone tools and sago, the people are dependent upon the mainland. They need sago to tide them over the dry season, when their gardens wither, since they have no crop which can be stored. Trade is carried on with the various coastal villages of the mainland by means of the exchange of goods between 'trade partners' (*tawa*). Every man (and every woman of high rank) on Manam has a *tawa* in one or more of these villages. Before inter-village fighting was suppressed this *tawa* bond alone made a man (or woman) safe in a village where he had no kinsfolk; even today a native will hardly visit where he has no *tawa* to be his host. The relationship is hereditary in the male line, and a man will call the *tawa* of his father by the term for 'father.' The building of overseas canoes for the purpose of overseas trade, and the maiden voyages of these canoes are the two most absorbing activities of the Manam from late January until July. In every village the principal canoe 'belongs to' the village *tanepwa* (chief), but the *tanepwa* of each major clan in the village can also have one. In the building of these canoes there is much co-operative activity, involving men, women and children, as well as work by small groups and by individual craftsmen. The work of construction extends over about four months, and is punctuated by feasts given to all the workers. After the first maiden voyage a special food is prepared from all the sago brought back, and this is presented to everyone down to the youngest child who took any part in the construction.

The goods exchanged are mostly of economic importance: galip nuts, pigs, taro, tobacco are taken from Manam; sago, pottery, bamboo, women's petticoats and other goods are brought from the mainland. More important than these, in the eyes of the natives, are the carved slit gongs, the curved boars' tusks and the 'breastplates' of dogs' teeth which are obtained from the mainland; the success or failure of a trading trip is judged by the number of these which the canoes bring back. During the building and launching of a canoe it is 'shown' what it must fetch from the mainland, and powerful magic is made so that it draws such valuables to itself irresistibly.

The visits to the mainland are exciting social occasions, especially for young girls who accompany their fathers to cook for them, and for recently initiated youths who are making the trip for the first time.

### An Overseas Lending Library Service

**6** In order to assist research by Fellows resident, or engaged in field work, abroad—who have hitherto been unable to avail themselves of the book-borrowing facilities open to Fellows in the United Kingdom—the Council of the Royal Anthropological Institute has now been able to institute a scheme to enable them to borrow some of the most important general works and monographs of the kinds which are likely to be in greatest demand overseas. The scheme, which comes into operation on 1 January, 1948, provides for borrowing of up to five books at a time for a period of two months; borrowers must first deposit a sum of £3 with the Institute as an imprest account to defray postages (which, as with the home service, are borne by the borrower) and also any loss or damage not covered by insurance.

This extension of the Institute's activities has been made possible by the acquisition on favourable terms of a duplicate collection of standard works (and will thus not impair the facilities available to home Fellows). It is intended to add continuously to this collection so that it shall form a more and more representative selection of the most important books and periodicals in the anthropological field; it is at present particularly strong on the British African territories, but includes many authoritative books

on other primitive peoples besides a good collection of general and methodological works. The regional monographs will clearly be of interest not only to researchers in the areas concerned, but also to those in other areas who wish to keep up with their methodological implications; moreover, the service is open to Fellows resident on the continent of Europe, who have in present circumstances much difficulty in obtaining British textbooks. Fellows overseas will be kept in touch with the service by the periodical circulation of lists of available books, the first of which will reach them shortly.

This service is the first of its kind and the experiment depends for full success on co-operation, in their own interest, by those who use it, since delays in returning borrowed books would clearly have a cumulative effect. It will bring the services offered to overseas Fellows more into line with those available in the United Kingdom, and should create a wider interest abroad in the Institute's work for the encouragement of anthropological research.

The Institute's library as a whole is now in course of complete reorganization by a staff of three, headed by a highly trained and experienced Librarian, and improved service can already be offered to borrowers, following upon the difficult conditions of wartime.

WILLIAM FAGG

## REVIEWS

**L'Homme et la Matière.** By Andre Leroi-Gourhan Paris (Albin Michel), 1943. Pp. 367. Paper covers. Illustrated

**7** This is the first volume of a two-volume treatise on technology by an author whose extensive knowledge, broad outlook and critical judgment combine with his originality of treatment to produce what one must regard as at least an approach to a textbook of Comparative Technology. The author himself does not make this claim, but whilst he considers that the time is not ripe for the subject to appear in the guise of a science, he has undoubtedly made a substantial contribution to progress in that direction.

The division of the book into two volumes was no doubt justifiable, and perhaps unavoidable, but it has its inconveniences, not the least of which is the relegation of the index to the second volume, since this greatly reduces the inherent reference potential of Vol. I. The second volume (*Milieu et Techniques*) has already been reviewed in MAN (1947, 60), having been the first to reach the Editor.

The whole work is based on principles, some of them hitherto neglected, that the author regards as fundamental, and he proposes some unusual and unexpected criteria for use in classification, for which he has a flair, or perhaps a passion. As to theory, his watchword is caution, and he condemns what he regards as the facile floating, or swallowing, of wide-ranging hypotheses of common origins, whilst his attitude towards speculation is that of still more extreme austerity. As a striking and even disconcerting instance of his impartiality, however, we may quote from Vol. II, p. 468, where, having remarked that the same facts that he has used in the book may give rise to '*des considérations exactement inverses*,' he proceeds: '*peut-être aurai-je un jour, prenant les mêmes matériaux, l'occasion de contredire le présent ouvrage.*' Or is this cynicism and not impartiality?

Some may think that he has reacted too strongly against adventurous theorizing, but most of us will no doubt sympathize with him in his calls for more and better proofs than are at present available in several fields. We can also agree to welcome his attempt to inoculate with order what he refrains from calling chaos, but what he appears to regard, more or less tolerantly, as a phase of uncertainty arising out of methods of approach and 'vested interests' originating in the early days, during which the study of anthropology was not so much finding its feet as ignoring the need for them. It is not unbecoming in a Frenchman to be a revolutionist at large in the anthropological field.

First as to the general plan of the volume under review: at the beginning and the end are sections (there are no chapters) dealing

with theoretical and practical questions of, and of other than, morphological interest, whilst the middle and greater part of the volume is more exclusively devoted to the material aspects of artifacts and methods, with especial reference to the acquisition, fabrication and utilization (*consommation*) of the substances and natural aids available. This central portion is introduced by a major section, on *Moyens Elementaires d'Action sur la Matière*, in which Percussion, Fire, Water, Air, and *la Force* are treated in association with the implements and devices by means of which they are guided or coerced into co-operation in techniques. Here follows, with apparent but something less than real inconsequence, a section on *Les Transports*, in which means of transport by land and water are discussed in their role as participants in tasks of acquisition and distribution. The section on *Les Techniques de Fabrication* deals primarily with methods and appliances for rendering utilizable a great variety of natural materials, classified as Solids and Fluids, the first of these being divided into categories such as hard, fibrous, and plastic, and ranging from stone and metals to earths, gums, textiles, etc. Involved in and arising out of this grouping is the treatment of such techniques and industries as wood-working, metal-working, agriculture, pottery-making, spinning and weaving, together with their associated tools and appliances. In general, it may be said that artifacts do not appear in this volume—which includes 577 drawings of them by the author—in their own right, but mainly by virtue of the parts they play in effecting or facilitating production. Some of the techniques and appliances make an appearance in what we may perhaps call a more conventional guise in Vol. II, to which are relegated weapons, domestication of animals, agriculture, minerals, food, clothing, and dwellings. Here there are 622 of the author's drawings, which are, as in Vol. I, clear and adequate for their purpose. They are indeed strictly utilitarian in their linearity, but their usefulness is diminished by a discouraging system of description and reference.

In the sections (of both volumes) concerning artifacts and techniques it is not to be supposed that we are offered a dry-as-dust compilation of an infinitude of second-hand detail. The author tells us that he has taken opportunities of using the axe, knapping flint, shooting arrows with the bow and darts with the blow-tube, sometimes in the field, sometimes in the laboratory (Vol. I, p. 12). Elsewhere (Vol. I, p. 100) he states that '*aucun objet n'a été mentionné sans avoir été vu, étudié, et pour les plus nombreux cas sans avoir été manié jusqu'au résultat normal.*' The author is no novice, as indeed his

other published works would indicate. The descriptive portions of this central text are lightened and illuminated by comments, explanations, suggestions, condemnations—but rarely, if ever, speculations—upon or of theoretical points arising out of the expository matters.

The plan of the work does not make for easy reading, but perhaps originality and innovation rarely do, especially for those of us who are in the later stages of fossilization. Any open-minded and intelligent technological student who makes the effort to understand the significance of the author's propositions by following his arguments will learn much to his advantage, though it may be doubted whether the social anthropologist will find much that will help him to apply his anthropology.

It may be interpolated here that the author suggests, as an economic classification of mankind, the following grouping: *très-rustique* (e.g. Australian aborigines), *rustique* (Eskimo), *semi-rustique* (African negroes), *semi-industriel* (Chinese), *industriel* (Europeans). It is unlikely that our word 'rustic,' at least, would find acceptance in this connexion, in spite of our urgent need for an amenable economic or other classification.

Something may now be said as to the author's vigorous approach towards the formulation of methods of more and better analysis and classification.

The subject of *Les Percussions* receives early and detailed treatment (Vol. I, p. 45). Justification for this may be found in the observation: 'l'homme n'a pas d'autre prise sur le bois qu'en coupant sous un certain angle, sous une pression déterminée' (p. 14), from which the conclusion is drawn that this compulsion in the technique of wood-working enables us to classify the forms and hatching of many implements. Beginning with the identification of two directions of application to its task of a tool such as a knife, axe or drill as being necessarily perpendicular or oblique, there are allowed three ways for the initiation of pressure for each of the two directions: 'posée, lancée, posée avec percuteur.' Each of these again leads to four modes of penetration. This gives us, in the end, twenty-four compound definitions, though, of course, no type of tool can use more than a very limited number of the modes of action, or even only one. As an example, the action imposed upon an awl in hammering it into wood may be described as: *Percussion-perpendiculaire-posée avec percuteur-punctiforme.* As to whether this verbal chain indicates a refinement of technical definition, or classification run riot, opinions may differ; but technology has great need of agreed definitions and classifications for comparative purposes, and a sincere effort in this direction cannot be dismissed out of hand as being too cumbersome for convenience. As things are, we plod along, mainly in the vernacular, and it would now be very difficult, perhaps impossible, to mould Greek and Latin roots to our purposes, as the anatomists and biologists did to a very large extent long ago. Language barriers are too wide and high to allow us to hope for an easy and rapid evolution of a generally accepted terminology, and even an international language would probably leave us in the lurch.

As basic conceptions in the author's approach to the study of man's technical equipment (and not that alone) he identifies, acting in antithetical co-ordination, 'tendances et faits,' which he defines as follows: 'La tendance a une caractère inévitable, prévisible, rectiligne; elle pousse le silex tenu à la main à acquérir un manche, le ballot traîné aux deux perches à se munir de roues, la société fondée sur le matriarcat à devenir tôt ou tard patriarcale' (Vol. I, p. 27); and 'Le fait, à l'envers de la tendance, est imprévisible, fantaisiste' (p. 28); and, also of *les faits*, 'qui, quelle que soit leur proximité géographique, sont individuels, uniques' (p. 14).

At first reading it may be difficult to accept the validity of the definition of *la tendance*, even in order to gain a useful working hypothesis, and the author, in other contexts, tends to soften its arrogance. It is largely based upon a superficial parallelism between the evolution of vertebrate animals after, for example, they left the water to colonize the land, and the course of evolution of man's artifacts, not only material but institutional, since *Homo sapiens* first appeared. The emergence (invention) of simple artifacts appears to us to have been, in large measure at least, predetermined, though the rider must be added, assuming that progress was inevitable. *Les tendances* as defined are as imperative and deterministic as the author

requires them to be, though he is obviously well aware that the conception is merely a convenient interpretation, by no means final or unquestionable, of facts of observation. He says, for example: 'Qu'on ne s'y trompe pas, ces lignes [of animal evolution] rendent simplement un aspect de la vie, celui du choix inévitable et limité que le milieu propose à la matière vivante'; and then 'tout semble se passer comme si un prototype idéal de poisson ou de silex taillé se développait suivant les lignes préconcevables du poisson à l'amphibien . . . du silex indifférencié dans sa forme au tranchet de pierre poli, au couteau de cuivre, au sabre d'acier' (Vol. I, p. 13). The operative word is *semble*.

That man is also a determining factor in the evolution of his own equipment, not paralleled, as far as observation goes, in organic evolution, is clear. Though controlled and guided at every initial step by *les tendances*, he intervenes with his brain and his hands no less continually, and it is between the two co-operating factors that the artifacts emerge. If a new type of implement is to function in the way he wishes, it is in the 'nature of things' that the embodiment of his idea must have a minimum of functional characters, and we may picture the first spear-thrower or axe as having no more. It had then become *un fait*, and *les tendances* had (in the average case) finished with it. This prototype received additions by way of improvements and embellishments, which still arose out of the interaction between man and his environment, but were not predetermined.

The author's *degrés du fait* play an important part in his conception of the utility of his schemes of analysis, and the following quotation indicates the wide scope of his proposals: 'le premier degré du fait correspond à sa fonction: marteau, harpon, propulseur, danses d'animaux, mariages endogamiques, rites d'expulsion de l'année écoulée' (Vol. I, p. 35). His excursion outside the technological field may be left for consideration by the social anthropologists. In the case of artifacts, it is clear that the first *degré*, or grade, of the *fait*, or artifact, may be assigned to the prototype, which has only functional characters. Later grades, of which the author assigns five, for example, to the various types of spear-throwers, are based upon the improvements and additions referred to above. He emphasizes strongly that artifacts which have the simplicity of the prototype—no frills—are as likely as not to have been invented two, three or several times over in the course of the evolution of human cultures. He recognizes, however, that the added characters, which may be quite superfluous and even detrimental, are often of much more value in the formulation of theories of contact and diffusion, and this view is, of course, by no means new. It seems to the reviewer that the author has been too 'equalitarian' in his treatment of prototypes from this angle. However predetermined may have been the material realization of a concept, there must clearly have been considerable variations in the ease and frequency with which such foreshadowings could arise in the minds of men. For example, chance suggestions for the production of a spear-thrower, a spindle or an axe were much more likely to occur than would those for more difficult inventions such as the fire piston or the archer's bow; whilst the concept for the vehicular wheel had to pass still more obscure and difficult tests of inception and incubation before it could become a functional reality.

We may end this passing encounter with the author's perhaps too rigidly defined *tendances et faits* by expressing a regret that the need for brevity has prevented a fuller discussion and has probably led to some misinterpretation and injustice. It may be added that, valuable as he finds them—and as we may perhaps find them too—as tools for analysis and classification, they seem to make things rather worse for the hardened diffusionist; but that here again the operative word is 'seem.'

As to the origination of ideas for the production of new or transformed appliances, the author opens the door, perhaps inadvertently, to speculation when he says: 'Le hasard préside aux découvertes, et des associations imprévues souvent donnent l'élan initial' (Vol. II, p. 425). This was a main conception at the root of some hypotheses and speculations put forward by the reviewer on several occasions some years ago, in which he laid special emphasis on man's fertile and incurable opportunism (see especially H. S. Harrison, 'Opportunism and the Factors of Invention,' *Am. Anthropol.*, Vol. 32, 1930, No. 1). Since, however, speculations on remote, and even not so distant, origins are expressly condemned by

the author, any further reference to the reviewer's conceptions of Free Mutations, Cross-Mutations and the like would perhaps be discourteous, and certainly discursive. Incidentally, it appears that the author makes no distinction between discovery and invention, and indeed they intermingle and merge into one another very disconcertingly. Certain broad distinctions can be drawn, however, and it is abundantly clear that whilst 'early man' must have been mainly dependent on discovery, the passage of time brought increasing opportunities and suggestions for inventions, until in our own day they can be made absent-mindedly—almost—by cross-mutation, or hybridization.

All reviews must have an end, and that of this one is long overdue. The many topics dealt with in the general and theoretical sections of Vol. II offer special temptation to a reviewer whose concern is formally with Vol. I, but it can only hastily be mentioned that there are included discussions on Problems of Origin and Diffusion, Borrowing, Invention and Creative Activity and much else, and that these taken together constitute a satisfying tailpiece to a work which is not likely to be rivalled in this country until Technology (with Material Culture) has been recognized as the scientific basis of Cultural Anthropology; and until intermediate and laboratory courses in it have been established in our universities.

H. S. HARRISON

**The Expansion of the Scope of Science.** By Leslie A. White. Reprinted from the *Journal of the Washington Academy of Sciences*, 37, no. 6, 15 June, 1947

8 This is a reasoned and documented plea for the extension of scientific method to facts and events of culture; but, as the concluding summary shows, it expounds the familiar notion that there is no difference between the facts of physical science—the events of the world around us—and the facts of the human sciences—the events of human consciousnesses and wills.

It may be admitted that 'scientific interpretation will appear—and has appeared—first, and grow fastest, in those fields where the determinants of human behaviour' are the weakest and least significant, first in astronomy, then in biology, 'and eventually social behaviour,' which Dr. White is at great pains to distinguish from 'culture,' while claiming 'culture' also as the subject of a specific 'science' with the barbarous name of 'culturology.' But it is at the point where 'social behaviour' seemed, a generation ago, to be falling under the same determinist hypothesis as physical and biological facts that there has been a recent reaction, which Dr. White deplores; and precisely for the reason that the determinist hypothesis has been seen to be inapplicable in the human sciences. Tylor, the founder of a 'science of culture,' was too good a linguist to be unaware of the relations between 'cultural traits' and the individuals in whose behaviour they have to be studied; and the closing words (quoted on p. 209 from *Anthropology*, 1881) recognize, alongside our ability to 'forecast the future' by the story of the past, our 'duty of leaving the world better than we found it,' which is incompatible with the determinist hypothesis.

From this standpoint, recent controversies about the relations between individual psychology, 'social' psychology and the projected 'culturology' are of secondary importance. A boomerang and a Raphael *Madonna* are alike artifacts, though their psychological interest is different, and the same applies to a verb and a vote. Each is a proper subject for scientific investigations, but the 'laws of this development' are less (or more) scientific, according to the role of individual initiative. Even within 'letters' there are *litteræ humaniores*; the composition of an Oxford class-list is not demonstrable, and probably never will be. But this is not meant to deter those who believe with Dr. White from assaulting the 'last remaining stronghold of the old philosophy.' It may turn out to be a Stalingrad.

JOHN L. MYRES

**Farmers of the World: The Development of Agricultural Extension.** Edited by E. de S. Brunner, Irwin T. Sanders and D. Ensminger. Columbia Univ. Press. O.C.P., 1945. Pp. xiii, 208

9 As a useful compendium on the work of adult education amongst farming communities in the major areas of the world, this book is to

be welcomed, but while the list of authors includes many names well known in this field, the standard of the volume as a whole is regretably superficial. This is probably the inevitable result of trying to survey in general terms a most complex problem, the cultural penetration of preliterate and 'folk' societies by the techniques and value systems of western civilization. Farmers have shown a remarkable persistence in retaining their own several ways of life in face of the demands of the world market and have often refused to develop desires for the gadgets that modern industry offers.

The book deals with what has been done, often with small resources, to help such communities evolve. Not least important is the description of the methods by which agricultural extension has achieved its successes among subsistence farmers. The underlying need for a thorough study of the whole of the life of these communities before extension work can make progress is recognized. It is gratifying to find that the best chapters are those introducing the sections and describing the types of farming society. It is obvious from this study that the training of the extension worker, even if he is to operate in Western Europe or the U.S.A., might profitably include instruction in the techniques of social anthropology, but this need apparently is not recognized.

J. M. MOGEY

**Volkskunde der Schweiz.** By R. Weiss. Zurich (Reutsch), 1946. Pp. xxiv, 430. 324 illustrations and 5 maps

IO This large book emphasizes the study of folk life and brings out the contrast between the traditional folk ideas and mere mass reactions; considers the rise of a proletariat and its relation to tradition, and emphasizes the share of tradition in moulding personality, even of the most individualized of men. Switzerland, with its four languages, its religious diversities, its confident local autonomy, its plateau peasantry and mountain herders, has a wealth of folk life that has found almost unique expression for itself because of the freedom of the cantons from fear of other cantons. Naturally, therefore, Switzerland is well to the fore in the study of folk life, for which its splendid museums are an important auxiliary. Weiss seems most interested in the mountains, and his references to the *rato-romansch* area are very numerous and valuable. He seems less concerned with the peasantry of the lower lands, but all who want details of transhumance should consult this book. It has 314 illustrations and a number of maps, some of which illustrate the infectious character of French culture. The chapters deal with settlement (not in much detail), houses and other buildings, economic life, food, clothing, custom and festival, games and sports, drama and dance, speech and sayings, legends and books, knowledge and belief, the state and the law, and the character of the folk. What are often printed as footnotes are here gathered at the end, occupying 35 pages; references are very numerous and valuable, partly because often little known. There are many suggestive comments on mass excitement as a foe of democratic freedom, in contrast with appreciation of tradition as a help to the self-control so essential for maintenance of that freedom; but tradition is considered not as a collection of antiquities, material and spiritual: it is rather, according to the author, an attitude and quality of mind based on general experience, a feeling for what is durable, even permanent. It is held to be contrasted with the historic sense, developed among scientific thinkers; its weaknesses are fully discussed, as well as its value.

H. J. FLEURE

**Who are the Finns? A Study in Prehistory.** By R. E. Burnham. London (Faber and Faber), 1946. Pp. 90, with two maps. Price 7s. 6d.

II The Finno-Ugrian languages as a group differ widely from the other European languages. The origin of the Finno-Ugrians and of their languages has given rise to several theories; almost every race and nation has at some time been connected to the Finns, often on a very loose basis.

Dr. Burnham, Lecturer in Finnish in the School of Slavonic and East European Studies, gives in this book a critical account of the main philological theories on the question. The Asiatic origin of the Finno-Ugrian languages is discarded. The Indo-Iranian words borrowed during different periods and from various directions indicate that before 2000 B.C. the Finno-Ugrian community must

have been living in the regions north of Caucasus. From that period onwards the branching of the various Finno-Ugrian languages can be followed. The words representing different cultural levels also give an idea about the nature of the contacts which each people has had with its neighbours. When describing the prehistory of the Finns the author also shows how the information has been obtained. The methods of comparative philology are popularly presented, with plenty of examples. As the author states, the book is intended mainly for the general public.

Most of the volume (42 pages) has been devoted to the linguistic evidence. The author rather sharply criticizes racial anthropology as a science: too sharply, for on reading Burnham's opinions one might tend to underestimate the basis of the methods and of the results of modern racial anthropology, though it is true that anthropology

can give little if any information about remote times. Magyars, Lapps, Finns and the many Finno-Ugrian peoples in the U.S.S.R. certainly differ very much from each other in racial characters, in spite of the relation between their languages. These nations, as they now are, show a close racial resemblance to their present neighbours: certainly no Mongolian features can be distinguished in either Finns or Hungarians. The archaeological history of Finland is described in relation to geological changes. Finland has been populated since 5000 B.C., but the Finns entered the country only during the first centuries A.D. The earlier population have left evidence of their culture, but about their race and language only assumptions can be presented. Dr. Burnham's interesting, useful and readable survey concludes with a select bibliography and an index.

M. J. KARVONEN

## CORRESPONDENCE

### Devastation and Cattle-wealth

**12** SIR,—Referring to the problem of over-grazing, as set out in Sir John Myres' address on "Devastation" (*J.R.A.I.*, LXXIII, 1943, p. 21), I send you the following extract from my recent article on the subject in the *Anti-Slavery Reporter and Aborigines' Friend*, ser. VI., Vol. 2 (October, 1946), pp. 54f.

H. W. FOSTER

'Of all the many factors involved in land destruction in East Africa, few are more important than over-stocking, and few more difficult than this to handle. It has been brought about in part by the successful policy of veterinary departments which have controlled diseases so thoroughly that the flocks and herds have multiplied beyond all expectations and beyond the capacity of the land to maintain them.

'The native, of course, regards his stock not only as an economic asset but also as outward and visible symbols of wealth, at once his jewels and his investments. Tribal customs and the habits of generations are also involved. Everyone is agreed that no effective policy of land regeneration can be undertaken unless flocks and herds are reduced to a size which will suffice for economic needs. The native could live better himself if he utilized the capital which is represented by his swollen herds; indeed, he could often become a moderately wealthy man would he but sell his surplus. But a direct frontal attack on age-old customs, by obliging the tribes to sell surplus stock or to reduce numbers by compulsory slaughter of inferior animals, would evoke widespread resistance and might involve serious trouble and loss of life.

'A policy of force alone will not suffice, but if we are to wait for a solution of the problem until the time comes when the native has passed from his present tribal economy into the money economy of the twentieth century, the land will be a desert long before this change has taken place. The animals today are symbols—and it may be suggested that some acceptable alternative symbol must be provided. The attempt, perhaps, could be made to do this by minting a special coinage—£1 and £10 pieces with all the normal functions of currency but only put into circulation by the purchase of stock at Government auctions: the one-pound coin about the size of a five shilling piece, with the King's head on one side and a goat stamped in bold relief on the other side. The ten-pound coin should be a really imposing thing, about the size of the top of a fifty  $\phi$ n of cigarettes or even larger, and it should have on one side the King's head and on the other a really magnificent East African cow. I should suggest that both these coins should be heavy and gold in colour—possibly sufficient gold in their make-up to prevent tarnishing, though they would have to be hard for rough usage. They should have a hole punched through them so that they could be strung on a string, and special grooved clips to hold the coins could be designed to go into the pierced lobe of a native's ear, which now so often carries a cigarette tin!

'Every device of propaganda should be set to work to popularize them. The African has a very well developed sense of humour, and it might be pointed out that only very superior persons could carry a cow in each ear, twenty more round their necks, not to mention several bracelets or anklets of goats! These coins thus dis-

played could be filmed and shown at tribal assemblies. If an imaginative effort were made it would be possible that these tokens might be accepted rapidly into tribal custom to represent and replace the too numerous cattle and goats. But unless something is given the native to take the place of his cattle in his ideas, no really acceptable solution to the problem of over-stocking would seem possible.'

### 'Virilocal' and 'Uxorilocal'

**13** SIR,—There is a tendency in social anthropology at present towards making this subject 'more scientific,' and one of the first requirements is a clear terminology, which ought to be accurate etymologically as well as logically. The adjectives 'patrilocal' and 'matrilocal' do not fulfil these requirements.

In contrast to other terms derived from Latin or Greek, these terms are not intelligible to the beginner without explanation. Logically, 'patrilocal' and 'matrilocal' make sense only when there is at least one child. Moreover, it stands to reason that the antithesis between 'patrilocal' and 'matrilocal' is justified only where the parents of the child live at different places of permanent residence and the child is staying with either the father or the mother. This may be the case after a divorce or separation of the parents, or in certain cases of polygyny where each of the wives has her separate domicile. In most cases, however, parents will live together, having their children with them, so that the terms 'patrilocal' and 'matrilocal' are out of place. If, however, they are meant to indicate whether the parental couple shares the residence of the father's or the mother's kin, they are incorrect etymologically and misleading.

Actually, of course, in using the terms 'patrilocal' and 'matrilocal' we are not thinking, primarily at least, of the children. They are supposed to indicate that a married couple lives at the locality of either the husband's or the wife's family, the third possibility being in Vinogradoff's terminology 'isolated settlement.' If we want to coin a term to denote where a married couple settles down after the marriage ceremony there is no sense in deriving it from *pater* or *mater*, seeing that there is no fatherhood or motherhood yet. If we want special terms at all, we should derive them from 'husband' and 'wife,' and the Latin equivalents *vir* and *uxor* recommend themselves. It is of no importance here that there are no two legal systems, highly developed or primitive, where the social and legal position of a husband or a wife is entirely the same. Notwithstanding the great variety of forms, it is legitimate to retain the general concept of *marriage* and, implicitly, the terms for its partners.

I therefore propose adoption of the adjectives 'virilocal' and 'uxorilocal' to indicate whether a married couple shares the domicile with the family of the husband or of the wife. I believe that these terms are unobjectionable from both the etymological and the logical points of view. In addition, they offer to the student the advantage that confusion with the classical terms *patrilineal* and *matrilineal* is excluded. I may mention that, during the last five years or so, I have applied the new terms with success in my ethnological classes.

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STONE AGE IMPLEMENTS FROM MOUNT KENYA

# CLIMATE AND EARLY MAN IN KENYA\*

by

FREDERICK E. ZEUNER

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**14** The large number of palaeolithic sites in Kenya Colony discovered by Dr. L. S. B. Leakey and others has attracted attention to this area: its importance lies not only in the quality of the finds but in the geographical position of the sites near the equator, as they provide us with a long record, from stratified deposits, of prehistoric man within the tropical zone. So far, the necessary chronological framework has been provided by the Great Rift Valley of Kenya, where many sites are concentrated, in association with the deposits of large lakes, predecessors of the modern lakes of Nakuru, Elmenteita, Naivasha, etc. Their levels fluctuated in the Pleistocene. Their deposits belong to two stratigraphical series now called Kamasian and Gamblian. As late as 1921 Gregory regarded the Kamasian as Miocene (*Rift Valleys and Geology of East Africa*, p. 199), but Leakey and Solomon (Leakey, *Stone Age Cultures of Kenya Colony*, pp. 6ff. and 245ff.) have since shown that where the Kamasian yields fossils and implements it appears to be Middle Pleistocene, whilst the Gamblian is of Upper Pleistocene age. It must, however, be stressed—as has been noted before by Solomon—that the age of the lower parts of the Kamasian is not really known. The Kamasian and Gamblian series have been interpreted in the climatic sense, namely as pluvials; they have been supplemented by a yet earlier phase (not known from the Kenya Rift but described by Wayland<sup>1</sup> from Uganda) and by two minor post-Gamblian phases, the Makalian and the Nakuran. The entire sequence has been summarized by Leakey in chapters I-IV of his *Stone Age Africa* (Oxford, 1936). Of industries, the Acheulian is of Kamasian age and the 'Kenya Aurignacian' of Gamblian age, whilst the 'Mesolithic' Elmenteitan and the Kenya representatives of the early Wilton belong to the Makalian wet phase. The Nakuran, finally, contains the very latest prehistoric industries, Gumban B and materials of the Stone

Bowl Culture. (For attempts to revise the nomenclature of industries see the discussions reported by Bernard Fagg, *MAN*, 1947, 170.)

This sequence of wet phases has been correlated with certain ancient moraines found on Mount Kenya by Nilsson,<sup>2</sup> on the assumption that a period of increased lakes in the Rift requires increased precipitation in Kenya generally, and that the glaciers of Mount Kenya must therefore, at the same time when the lakes in the Rift were large, have been larger than today. The correlations of lake phases with moraines are, of course, for the time being no more than tentative, and original workers in the field are on the whole aware of this (Leakey, 1931, p. 12). On a recent visit to Kenya I have become convinced that this question of the correlation of the moraines on Mount Kenya with lake phases in the Rift Valley is one of considerable importance for the chronology of early man in tropical Africa, and for the theory of tropical pluvials<sup>3</sup> in general. At first sight, the ancient lake beds in the Rift seem to be impressive evidence for 'pluvials,' but some recent discoveries carry with them implications which render it desirable to study in some detail the problem of the pluvials in Kenya.

Leakey (1936, p. 8) has always emphasized the great amount of tectonic movements which took place while man was present in East Africa. That this view is supported by the majority of the geologists who have worked in the area was apparent in the discussion which followed Dr. Dixey's paper on 'Erosion and Tectonics in the East African Rift System' (*Q. J. Geol. S.*, CII, pp. 339-88). Teale, Shackleton and others hold (*ibid.*, pp. 380f.) that the main topographical features of the Kenya Rift Valley were due to successive phases of faulting which culminated in the Middle Pleistocene, *i.e.* in Acheulian times. With regard to the evidence afforded by Palaeolithic sites it must be admitted that sites like Kariandusi (a site on the floor of the Rift Valley near Gilgil, where numerous small faults intersect an Acheulian occupation level), though suggestive

\* Based on a paper read to the Royal Anthropological Institute on 25 April, 1947, with a Communication from Raymond Hook, Nanyuki, Kenya.

## EXPLANATION OF PLATE B

Nos. 1-7. Lower Palaeolithic from various localities in the neighbourhood of Nanyuki: 1, flat ovoid of Acheulian aspect, found by Dr. K. P. Oakley near the base of Epi-Kamasian lateritic earths at Nanyuki, where the road crosses the Liki River (specimen E. 1169, Geol. Dept., Brit. Mus. Nat. Hist.). 2, 3, 5, 6, 'Levallois' flakes. 4, small tortoise core. 7, 'point' on flake, reverse surface unretouched. Acheulian and Levalloisian elements occur mixed in this area, forming the Nanyukian industry established by Dr. Leakey and since compared with the Fauresmith industry of South Africa. (Specimens presented by Dr. L. S. B. Leakey to the University of London Institute of Archaeology.)

Nos. 8-28. Obsidian implements, from the moorlands of Mount Kenya, above 10,500 feet altitude: 8, largest blade. 9-11, backed blades. 12, 13, burins. 14, point on blade, left lower portion broken off. 15, point of Stillbay type, worked on both sides. 16, 17, blade-end scrapers. 18, thick, steep-nosed end scraper. 19, scraper, resembling 'sinew-frayer,' on flake, bulbar end removed. 20, *tranchet*-shaped flake, bulb at pointed end. 21, one of two large 'Levallois' flakes. 22, smallest 'Levallois' flake. 23, scraper on flake, with suggestion of tang (bottom left). 24, small pointed scraper. 25-28, the two smallest and the two largest thumb-nail scrapers. (Specimens collected by Col. R. Meinertzhagen, London.)

Separate scales are given for No. 1, Nos. 2-7 and Nos. 8-28 respectively.



of Rift faulting, may after all be disturbed by local intrusions of lava, such as can be seen in the road section nearby. But it is very difficult to find any but a tectonic interpretation for Cartwright's Site on the Kinangop Plateau north-east of Naivasha (Leakey, 1936, pp. 48-54), with its well stratified swamp beds on the edge of the escarpment 2,000 feet above the floor of the Rift. Other evidence for faulting in or after Middle Pleistocene times has been obtained at Olorgesailie in Kenya (MAN, 1947, 170, fig. 2), at Olduvai in Tanganyika,<sup>4</sup> and in Uganda.<sup>5</sup>

Now the existence of tectonic movements (and of contemporary volcanic activity) in the Kenya Rift Valley is somewhat detrimental to the pluvial theory. Solomon,<sup>6</sup> indeed, is inclined to discard the 'Pluvial Hypothesis' completely as a basis for the classification of the African Quaternary. The Rift Valley itself well illustrates the havoc that earth movements are liable to play with climatic theories. At present the floor of the Rift has a dry climate, whilst the highlands on both sides receive ample precipitation. This is so because air travelling over the edge of the escarpment will sink and become dry owing to compression, and diurnal heating of this dry air will give rise only to occasional scattered storms. If we imagine the floor of the Rift as raised to the level of the Kinangop Plateau, then the climate would become uniformly wet and any slight depressions already formed would be filled with lakes.

Nevertheless, I am (like Solomon) far from believing that climatic fluctuations did not occur in East Africa; but conditions in the Rift are so complex that it will be extremely difficult to disentangle there the effects of earth movements from those of climatic fluctuations. One way of overcoming the difficulties is to investigate series of fossil soils such as those found by Leakey at the Acheulian site of Olorgesailie; another is the investigation of a long and reasonably continuous sequence of events in a small area (such, for instance, as the Njorowa Gorge behind Longonot Volcano, in which several hundred feet of Kamasian-like deposits are exposed and which drained Lake Naivasha in Gamblian times<sup>7</sup>). The most effective way, however, is, it appears to me, to investigate the Pleistocene succession in an area *away from* the Rift, where earth movements were less complex and where their influence can be more easily distinguished from that of climatic fluctuations.

The most promising area of this kind is Mount Kenya and its environs. This gigantic volcano is comparatively old, probably pre-Pleistocene: it was glaciated repeatedly, still bearing many residual glaciers, and its river system carried products of weathering and erosion down to the plains, where they accumulated in sheets and terraces. In the moorland valleys above 10,500 feet ancient moraines and other traces of glaciation occur which have been described by Nilsson (see Note 2) from the east and south sides of the mountain. On the north-west side, where Mr. Raymond Hook enabled me to carry out a preliminary exploration, there is a beautifully preserved double terminal moraine in the valley of the Liki North River at 12,500 feet. This is so fresh that it must be fairly recent, but

in the Mackinder Valley there are less well preserved ridges which appear to be moraines of somewhat greater age, and the cross-sections of the valleys and ridges suggest the possibility that a cap of ice existed on the mountain at one time. At an altitude as low as 6,400 feet, boulder-clay-like deposits have been found<sup>8</sup>; though they are thought to have accumulated by solifluxion, they require a close study. Apart from Pleistocene geology, the present sharp climatic zonation of the mountain provides possibilities of investigating the later part of the prehistory of the area. There are on the moorlands close to the forest line peat bogs which might be worth pollen-analytical treatment.

The mountain thus affords excellent material for the study of the climatic fluctuations which must form the backbone of any chronological scheme. This is important enough with regard to the complex situation in the Rift Valley, where prehistoric sites are so plentiful; but Mount Kenya itself is by no means devoid of traces of early man. The sediments at the foot of the mountain have produced palaeolithic implements in many places (Plate B, Nos. 1-7). Shackleton (1946, p. 50) has reported on a rich Acheulian locality near Matoni Hill fourteen miles north-east of Timau. At the point where the Nakuru-Timau road crosses the Liki River and at other localities<sup>9</sup> occur the Nanyukian industry and, in a higher horizon, apparently pure Levalloisian.<sup>8</sup> The Nanyukian was recognized by Leakey (1931, p. 38; 1936, pp. 49, 54) as a distinctive industry in which Levalloisian and Acheulian traditions are merged, and it has been compared with the Fauresmith of South Africa. It is important to note that the Nanyukian is not confined to the area of Mount Kenya, but also occurs at Cartwright's Site, on the edge of the Kinangop Plateau above the Rift Valley. Thus, an archaeological link exists between the two areas which may be useful as a test for any geological correlation which may be established.

Finally, it appears that what one might call the 'post-glacial' prehistory of Mount Kenya is of unusual interest. The moorlands, which lie above 10,000 feet, are at present uninhabited, though there is evidence of former habitation. On this subject, Mr. Raymond Hook, who has explored the north-west sector for many years, reports as follows:

In the neighbourhood of Mount Kenya, Stone Age monuments exist in much the same forms as those of England, trackways and, in association, burial cairns, menhirs (fig. 1), stone cists and circles, usually on rather a smaller scale than in England. There are even monuments known to the settlers as 'miniature Stonehenges,' upright stones arranged in much the same manner as Stonehenge, about four feet high and over an area twenty feet in diameter. There are also relics of agriculture in areas where agriculture was unknown when Europeans arrived. These are in two characteristic forms, in long lines running up and down the slope, and in little mounds where the good earth was collected into hillocks, a method still to be seen in parts of Africa. The area in which this method is most visible is on the moorlands of Mount Kenya, where no subsequent settlement has obscured them. The area settled was on the north-eastern segment of the mountain, commencing at tree level at about 10,500 feet and stretching upward over grass-covered country, very similar to Scottish moorland, for 2,000 feet of altitude. Within this space very large areas of the better types of soil have been collected into mounds. The fields usually end on a line and at one spot the hillocks are in parallel

lines, a sure sign of human work. Associated with this work can be found broken pottery of an excellent type, characterized by a tasteful, simple ornamentation on a raised band. Occasionally, unbroken pots are found (fig. 2). Local Africans can recognize the work, which they ascribe to a legendary people,



FIG. 1. STANDING STONE, N.-W. SECTOR OF MOUNT KENYA  
(Photo: Raymond Hook)

the Gumba, supposed to have been fairly civilized and to have lived on Mount Kenya before they were killed off by the Masai. A find of iron was made on the moorlands, including a very fine spearhead, radically different from local makes, but this cannot be accepted as genuine 'Gumban' until further finds have been made.

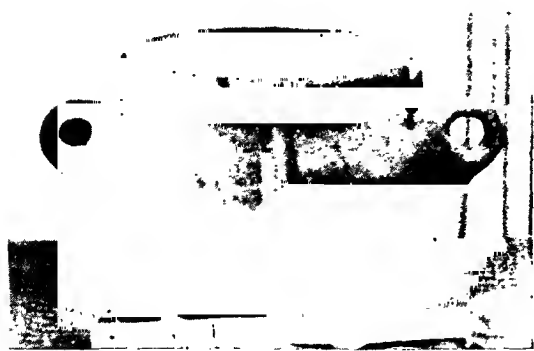


FIG. 2. POT WITH ORNAMENTATION ON RAISED BAND,  
MOUNT KENYA MOORLANDS, 12,000 FEET ALTITUDE  
(Photo: Raymond Hook)

In the cultivated area of long ago there is a group of about a dozen tumuli, each about thirty feet in diameter and fifteen feet high, with what appears to be a 'ceremonial entrance.' These I believe to be of human origin. On the mountain side beside them is a column of white quartz, upright, about four feet high and two feet in diameter, a curious thing to find on a

volcanic mountain. My boys tell me (I did not see it) that a piece of white quartz lies beside the 'ceremonial way.'

I know of one place which appears to have been a dwelling site, a little ledge in the mountain side, overlooking and adjoining a large cultivated area. No grave has ever been discovered—mainly because no one looked for them. Over the whole area occasional obsidian tools can be found. It has been reported that the material was mined at an elevation of 14,000 feet on the western slopes of the mountain.

A remarkable collection of obsidian artifacts, comprising fifty-three implements and about twenty unworked and waste flakes, has been made on the moorlands by Col. R. Meinertzhagen, who has placed them at my disposal for study. One would expect these implements to agree with the Gumban (Leakey, 1931, p. 198; 1936, p. 70) or one of the other 'Neolithic' or Iron Age industries, in view of the pot found by Mr. Hook. But the association of tools is different: in particular, all lunates and related forms are missing. Their absence is surprising, since they are frequent from the Kenya Aurignacian to the Gumban inclusive. The following tool types are represented: 1 long blade (74 mm.), 2 blades with ends retouched, 3 backed blades, 8 other retouched or used blades, 5 Levallois flakes, 4 burins (2 doubtful), 4 end scrapers on blades, 2 end scrapers on Levallois flakes, 3 coarse triangular flakes, 1 *tranchet*-shaped flake retouched all round, 1 'Stillbay' point, 3 other points, 1 thick oval scraper retouched all round, 14 thumb-nail scrapers, 1 broad blade, bulbar end broken off and simulating one of Leakey's 'sinew-frayers' (1931, p. 99), though the method of trimming is the ordinary one observed in scrapers. As regards technique, thirty implements were made from flakes detached from cores of the Levallois type, and twenty-three from blades of the Upper Palaeolithic type. All the specimens are glossy and unpatinated with the exception of two, namely, the 'Stillbay' point and one backed blade: these have a dull surface, although breaks show them to be made of the same obsidian as the other implements. Do they suggest that there are two obsidian cultures of different age on the mountain? In any case, the bulk of the implements belong to an industry which is not identical with the typical Gumban B of Leakey. Together with Mr. Hook's observations, this analysis shows that the late prehistory of Mount Kenya promises to be a fruitful field of investigation, and, moreover, one which is not without interest from the point of view of modern economy. It raises the question of why the occupation came to an end, whether it was the result of extermination by the Masai, or, perhaps, of a deterioration of the climate. I do not doubt that a careful study of the latest phases of Kenya prehistory will throw light on minor climatic fluctuations and thus provide information of potential use in the planning of modern economic measures.

In conclusion, I wish to express my thanks to the Senate of the University of London for making it possible for me to attend as its delegate the first Pan-African Congress on Prehistory held at Nairobi in January, 1947; to the Royal Anthropological Institute, which appointed me its Joint Delegate (with Mr. Bernard Fagg); to Dr. L. S. B. Leakey, who, by convening the Congress and arranging admirably

organized excursions to many important sites, enabled his colleagues to study East African problems on the spot and who helped me in every possible way during my stay in Kenya; to Mr. James Scott for his hospitality, for help in the field and for many fruitful discussions; to Mr. Raymond Hook for organizing a short but extremely successful expedition to Mount Kenya; to Col. R. Meinertzhagen for the loan of his collection of obsidian artifacts; and to Dr. K. P. Oakley for many fruitful discussions and the loan of a specimen (Plate B, No. 1).

#### Notes

<sup>1</sup> Wayland, E. J., 1935, 'The M-horizon,' *Bull. Geol. Surv. Uganda*, Entebbe, II, pp. 69-76; see also Zeuner, 1946, *Dating the Past*, p. 251.

<sup>2</sup> Nilsson, E., 1929, 'Preliminary Report on the Quaternary Geology of Mount Elgon and Some Parts of the Rift Valley,' *Geol. Fören. Stockholm Förh.*, LI, pp. 253-61; 1932, 'Quaternary Glaciations and Pluvial Lakes in British East Africa,' *Geogr. Ann.*,

Stockholm, XIII, pp. 241-348; 1935, 'Traces of Ancient Changes of Climate in East Africa,' *Geogr. Ann.*, Stockholm, 1935 (1-2), 21 pp.; 1938, 'Pluvial Lakes in East Africa,' *Geol. Fören. Stockholm Förh.*, LX, pp. 423-33.

<sup>3</sup> See my paper 'Mediterranean and Tropical Pluvials,' read to the Pan-Afr. Congr. on Prehistory, 1947 (in the press).

<sup>4</sup> Reck, H., 1933 (?) 'Über das Alter der ostafrikanischen Graben und Bruchstufen,' *Festschrift für Carl Uhlig*, Öhringen, 11 pp.

<sup>5</sup> Wayland, 1935, *op. cit.*; see also Zeuner, 1946, *Dating the Past*, p. 251. Extreme views on tectonic movements during the Pleistocene are held by Solomon and O'Brien (O'Brien, T. P., 1939, *The Prehistory of Uganda Protectorate*, Cambridge).

<sup>6</sup> In O'Brien, 1939, p. 41.

<sup>7</sup> For Njorowa Gorge, see Gregory, 1921, pp. 168, 199, 388. Dr. V. E. Fuchs has made a preliminary topographical and geological survey which has not yet been published. In the gorge there are several 'knick-points' and terraces which are likely to shed light on the development of the topography during and after Gamblian times.

<sup>8</sup> Shackleton, R. M., 1946, 'Geology of the Country between Nanyuki and Maralal,' *Geol. Surv. Kenya Rep.*, No. 11, p. 41.

<sup>9</sup> Solomon, in Leakey, 1931, p. 262.

## THE GUAR FESTIVAL OF THE SAWARA

by

MARGUERITE MILWARD

**15** A group of the Sawara is to be found in the Agency Tracts behind the cultivated valley of Parlakimedi State. Their language is distinct and their features are suggestive of a Mongolian element.<sup>1</sup>

Two great Festivals are held by the tribe after the crops have been gathered in: first, a great Play Feast, in January, when they dance down the hills into the town of Parlakimedi making merry at every house; then, in strange contrast, the Festival of the *Guar*, the Commemoration of the Dead, which takes place in February (*guar* means 'plant a stone').

At least a week beforehand the villagers started purchasing buffaloes, cheap now because the ploughing has been done. Processions of people chanting and singing with drum and pipe wound along the hill tracks. They went to the birthplace of the newly dead, seeking the spirit and promising it a buffalo and a memorial stone at the *Guar* ceremony.<sup>2</sup>

Crowds collected at the little village of Angda on the first day of their *Guar*, squatting on mud verandahs and on the steps of rough stone huts. The women wore short homespun cloths bordered in brown or red tightly wrapped round the middle. Their naked breasts were festooned with strings of twisted red and blue beads and brass chains. In the courtyard of every village were little spirit houses like thatched dovecots.

In the house of the *Kudayan*, head of the village, a séance was being held, five men sitting in a circle with one woman. Gifts of liquor and rice were brought in from relatives of the dead. Beautiful singing went on like a solemn chant, the woman joining in the refrain. The

medium, a *Kudang*, was showing the spirit (evidently the husband of the woman) the weapons he used in life, murmuring incantations and repeating questions.

The last rites of the *Guar* were held early next day on a level piece of ground enclosed by a low stone wall. The sacred shrine was built on the stump of a tree. A green leafy palm had been planted, flying pennons and a basket of offerings placed on it. New granite stones lay ready to be set up, a long line tapering to a smaller size for the ghosts of little children. Four men were carrying waterpots on their heads under an orange canopy; they marched round the shrine three times to the beating of drums (the *kadingan* and the *dollun*) and a brass drinking vessel. Men and boys appeared from all sides gay in coloured turbans stuck with white feathers; they wore narrow loin-cloths with red-tasselled ends and carried axes, bows, staves and peacock feathers. To the tune of pipes and cymbals and quaint instruments they began to dance with abandon.

The chief priest, a *Ganiang*, directed the ceremony. Fifteen handsome buffaloes tied in groups from four different villages were brought into the enclosure and grazed unconcernedly. The orange cloth of the water ceremony was folded and placed upon the biggest stone which was hauled up and planted against the shrine. The *Kudayan* scattered rice seed and dried grass and called to each spirit by name as he erected the stone. This ritual continued until fifteen memorial stones were reared in a circle round the sacred tree. A space was made of clean mud and dung; rice flour, ashes and turmeric were scattered and fresh leaves laid down. Lines for each person were scored outwards and gifts of liquor and rice placed on each. The

shrine was very gay with orange cloth and white feathers, an effigy of a large peacock, several umbrellas and an English parasol. Another little shrine was arranged at the bottom of the field, and with many incantations and much water-sprinkling they dragged a goat to the altar and cut its throat: this sacrifice was to initiate a new medium to conduct the spirit enquiry, one Kudang having died; at the same second the man fell into a trance.

The buffaloes were slowly driven into a corner of the field; relatives gave them rice and whispered messages for the dead in their ears. Then men came running and hit them with the butt of an axe where they stood; they fell like ninepins and died without a murmur. The buffaloes were bled immediately, the jugular vein severed and the feet cut. Blood was carried by the *Kudayan* to sprinkle over the offerings at the altar. Women caught the blood in leaf cups and took it to bless their homes. Hides were tied up, meat sorted and carried away on poles for the year's consumption; a small portion reserved for each spirit was

put on the altar. The heads were skinned and set up against the stones in rows.

At the shrine the relatives were indulging in a noisy chorus; the medium and priests sang what sounded like a kind of Gregorian chant. The Kudang invoked the spirits, who uttered their wants. Their families brought gifts to supply these—plantains, wearing apparel, weapons—and laid them on the shoulder of the medium. The crowd was drunk with both liquor and emotion and the mad dancers pranced in wild ecstasy round and round the enclosure until far into the night.

#### Notes

<sup>1</sup> Professor J. H. Hutton, Cambridge, writes that he believes the epicanthic fold is absent.—Ed.

<sup>2</sup> Professor Hutton adds: 'The *Guar* is performed by the Sawara at the time of sowing the crop and never after the rice has once been transplanted, so it probably marks the transition of the life matter of the deceased commemorated in it into the rice crop for the coming year. See *Census of India*, 1931, Vol. I (India), Part iii (Ethnographical), B, pp. 3ff.—Ed.

## EARLY MAN IN MEXICO

by

DR. HENRY FIELD

**16** On 22 February, 1947, the major part of a fossil human skeleton was found<sup>1</sup> by Helmut de Terra<sup>2</sup> in the Upper Pleistocene Becerra formation at Tepexpan, near San Juan Teotihuacán. The well fossilized bones were found at 1.12 metres in a buff silty clay, the same stratum<sup>3</sup> which had yielded six skeletons of the Imperial elephant (*Archidiskodon imperialis*).

The geological horizon excludes all possibilities of intrusive burial or redeposition. The fragmentary human skeleton was found at a depth of thirty centimetres below the caliche formation, which in this region marks the beginning of the Early Recent Period. In Mexico the caliche was diagnosed first by Kirk Bryan as a dry climate fossil soil. This represents the same dry climate phase (8,000 to 10,000 years ago) recognized by Antevs in our Southwest. The preceding Becerra formation represents the last pluvial when the Valley of Mexico was occupied by a lake whose beaches are preserved near the site. The fossiliferous stratum marks the closing phase of the Becerra pluvial when the lake level had fallen and a swampy lagoon had formed near Tepexpan.

The position of the skeleton<sup>4</sup> suggests that this adult male met death accidentally. The body was flexed, with the legs drawn up to the chest, face downward, and must have sunk partially into mud so that the buried portion escaped the scavenging action of animals which may be held responsible for carrying off the feet, pelvic girdle, shoulder blades and most of the thorax and vertebrae.

De Terra had found previously stone and bone artifacts, including three gravers, a scraper and a bone point, at three

different localities in the Becerra formation. These occurred in deposits containing rolled bones of *Elephas*, *Bison*, *Equus* and *Glyptodon*. In addition, a small obsidian flake was found by Dr. A. R. V. Arellano with an elephant skull<sup>5</sup> some 300 metres distant from the new site.

The Tepexpan skull and other skeletal fragments are bluish-black and partly mineralized. In addition to the calvarium, part of the facial region, and mandible, there are present both femora and patellae, both tibiae (fragmentary), both fibulae, both clavicles, three fragmentary costae, part of the atlas, both humeri, complete right radius, fragmentary left radius, both ulnae (broken), seven wrist bones, five metacarpals and thirteen miscellaneous finger bones. I made the following notes: The skull is mesocephalic and high, with the vertex higher than bregma. In the region of the frontal torus there is a massing of bone at the glabella and on each side; however, this massing does not extend above the external margin of the orbits. This condition of the supraorbital crest is well within the normal limits for ancient and modern Indians of Mexico. The face was short and broad. The nose was short and wide. In *norma frontalis* this face would have appeared very similar to one of the more primitive-looking Indians of Tepoztlan.<sup>6</sup> The palate is small and U-shaped. The teeth show advanced wear. All lower molars were lost during life. The cranial sutures are partly closed. The muscular attachments, except at inion, are not rugose. I estimate the age of this individual as at least forty years.

Tepexpan Man was therefore an adult Mongoloid who

died elephant-hunting in the swampy shore of Lake Tepexpan some 10,000 to 15,000 years ago.<sup>7</sup>

De Terra and I searched the neighbouring hills and ancient shoreline for archaic stone implements and in particular for a stratified cave deposit or a surface camp site.

On the hills overlooking ancient Lake Tepexpan are three areas containing rock shelters; here no surface indications of early occupation were found. Further down the slope near an ancient spring, closed within living memory, stands a rock shelter, whose overhanging roof may have collapsed. Here we found white chalcedony flakes. Between this point and fanning out towards the former shoreline were collected a few stone implements and numerous flakes. These could be divided arbitrarily into four categories<sup>8</sup> on the basis of material employed: (a) abundant obsidian with Teotihuacán and other sherds; (b) white chalcedony flakes, probably associated with archaic pottery; (c) milky chalcedony with or without earliest types of pottery; and (d) mottled chalcedony, including the central portion of a Folsom point<sup>9</sup> with the characteristic broad, longitudinal flake. This is the first indication south of the Rio Grande that there was a link<sup>10</sup> between the oldest cultures of New Mexico and the Valley of Mexico. Tepexpan Man may well be related culturally to the early dwellers of Folsom and Sandia.

De Terra and I excavated outside this small rock shelter. Many sherds<sup>11</sup> and a fragmentary calvarium were found near the surface. A stratum, formed by fallen roof blocks, delayed progress. However, de Terra continued work here with three local men until he was satisfied that no further excavation would prove profitable.

Manuel, the head workman, called attention to a low mound, called locally 'El Terremoto,' situated 500 paces north-west of the Tepexpan site. Here we collected sherds of several historical periods (Teotihuacán II-III) and numerous fragments of white chalcedony as well as hundreds of obsidian and cherty flakes. Trial trenches were sunk, but this mound proved not to have risen above the surface of Lake Tepexpan contemporaneously with the elephant-hunters. Two shells<sup>12</sup> were collected on the surface: *Succinea undulata*; and a marine shell, *Modulus modulus*.

On 12 March de Terra, Arellano and I continued our search for a stratified cave deposit nearby. In the El Gallo caves and rock shelters beyond Xometla no suitable site for trial trenches was found, except possibly outside the entrance to the largest cave, about fifty metres deep.

We continued by Command car over rough ground to the Cueva del Gato, where the owner informed us that we could walk for five hours without reaching the end and that in one place 'the ground was strewn with the bones of animals and giants.' However, every passage was blocked. The entrance was through a narrow cleft. Inside were large, fallen blocks, many of which hung at precarious angles, suspended as if by magic. Near the innermost point (100 metres) a few sherds and a broken *metate* of porous igneous rock were found. Returning to Xometla, we stopped at an open hillside quarry from which the Tepexpan workmen believed that the chalcedony had come. Examination

indicated otherwise, the red colour being different from the Tepexpan flakes.

De Terra found typologically primitive stone implements at Chalco on the western side of the Valley of Mexico. This led us to search for similar implements in the Cuernavaca<sup>13</sup> area. East and south of Teopanzolco<sup>14</sup> pyramid we collected<sup>15</sup> stone implements (mainly scrapers, few hand-axes) and many flakes and rejects. Next to a disused brick kiln and quarry<sup>16</sup> in La Gualupita behind the Hotel Selva stand several low mounds, where we found<sup>17</sup> flint flakes and obsidian chips. The former were similar to those from near the Cuernavaca pyramid.

Three rock shelters were visited near Palmyra between Kilometers 82 and 83 on the road to Acapulco. Standing 200 feet above the road, this rock shelter overlooks a fertile valley watered by a river. On the slope we collected a few stone implements and flakes. On the shelter floor were coarse, well fired sherds and fragments of stone *metates*. Trial trenches were indicated.

De Terra and I also visited two shelters in the adjoining valley leading from Temixco. The shelter directly in front and on the left side of the valley proved to be very small and uninhabitable.

Across the valley facing west was a rock shelter some forty paces wide, twenty deep and twenty-five feet high. To the left stands a small room cut off by a low wall. As we entered several dozen bats flew past. On the slope outside were indications of recent habitation. Trial trenches<sup>18</sup> should also be sunk here. In this area and around Cuernavaca and Tepoztlan are numerous other rock shelters and caves<sup>19</sup> which should be examined.

At Xochicalco ('House of Flowers') I visited several small caves on the western slope. There were no indications of early habitation. In this large area we found no stone tools of Chalco type. On another occasion we searched in vain on the western shore of Lake Rodeo below Xochicalco.

In summary, during 1947 prehistoric man was proved conclusively to have lived at least ten millennia ago in the Valley of Mexico—the first proof of fossil man south of the Rio Grande and one of the most accurately datable early skeletons on the American continent.

Tepexpan Man was a medium-sized, stocky, middle-aged Mongoloid hunter of elephants, who could pass unnoticed in a modern local fiesta<sup>20</sup> gathering in the *Zocalo*.

The physical and cultural relationships between the Tepexpan hunters and the Indians of our South-west remain to be determined. Traces of man in a late phase of Stone Age culture have now been found in the Valley of Mexico in Morelos and near San Luis Potosi. Thus, the links appear towards Folsom and Sandia. However, further researches must be continued westward towards Acapulco,<sup>21</sup> towards Oaxaca to the south, towards Vera Cruz to the east and towards Guadalajara and Lake Chapala to the north-east. Later it should be possible to determine the general trends, the lines of migration, the distribution of concentration and the range of variation of physical type of the earliest inhabitants of North<sup>22</sup> and Central America.

## Notes

<sup>1</sup> This work was financed by the Viking Fund in collaboration with the Instituto Nacional de Geología and the Instituto de Antropología y Historia.

<sup>2</sup> Now completing his final report on fossil man in Mexico. Part of the first section of these notes was very kindly supplied by Dr. de Terra, who also offered some corrigenda and addenda to this article. The first photographs appeared in *Life*, 31 March, 1947. See also de Terra, 'New Evidence for the Antiquity of Early Man in Mexico,' *Revista Mexicana de Estudios Antropológicos*, 1946, vol. 8, pp. 69-88, and 'The Fossil Man of Tepexpan,' *ibid.*, pp. 287f.; 'Preliminary Note on the Discovery of Fossil Man at Tepexpan in the Valley of Mexico,' *American Antiquity*, 1947; and 'L'Homme fossil de Tepexpan et les cultures pré-céramiques dans la Vallée de Mexico,' XXVIII Congrès International des Américanistes, Paris, 1947. See also Kirk Bryan, 'Comentario e Intendo de correlacion con la Cronologia glacial,' *Mem. del Segundo Congreso Mexicano de Ciencias Sociales*, 1946, vol. 5; A. R. V. Arellano, 'Datos geológicos sobre la antigüedad del hombre en la cuenca de Mexico,' *ibid.*, 1946, vol. 5, and 'El elefante fosil de Tepexpan y el hombre primitivo,' *Revista Mexicana de Estudios Antropológicos*, 1946, vol. 8, pp. 89-94; and H. J. Fleure, *MAN*, 1947, 117.

<sup>3</sup> This deposit is considered contemporaneous with the late Wisconsin III of the glacial sequence in the United States.

<sup>4</sup> Cleaned in the National Museum by Dr. Javier Romero and Miss Johanna Faulhaber.

<sup>5</sup> About forty years ago an elephant skull was found during the digging of a drainage canal about nine miles south of Tepexpan. An attempt to locate the specimen proved fruitless.

<sup>6</sup> The anthropometric survey of Tepoztlan, near Cuernavaca, Morelos, was made during the spring of 1947. I measured and studied 210 males, and with the collaboration of Dr. Heliodoro Celio Salazar, now Director of Public Health of Morelos, blood-grouping and medical observations were recorded. Miss Faulhaber had measured and examined 125 females during 1946. The preparation of these data on the males and females is now in train for joint publication.

<sup>7</sup> After a week of study Dr. Franz Weidenreich, who was invited to make a preliminary examination of the Tepexpan skeleton, prepared a brief technical description and recommended a detailed study in a laboratory where ready access would be available to a large series of North American crania for comparison. Arrangements were made in July for Dr. Romero to fly with Tepexpan Man to Washington, so that the technical description could be prepared in the U.S. National Museum, where the craniological collections are under the care of Dr. T. Dale Stewart. Romero's study, completed in September, is now in the Smithsonian press.

<sup>8</sup> Dr. de Terra in his memorandum dated 21 August, 1947, writes: 'I would prefer calling it a "folsomoid" point. I wonder whether your category of implements under (d) is not also one to be associated with pottery. In fact, I have no proof for your assumption that any of these implements were originally part of the forming cultures.'

<sup>9</sup> Despite many hours of concentrated search in this locality and adjoining areas, no other typologically Folsom or Sandia points were found.

<sup>10</sup> Dr. de Terra found during June some typologically Sandia points west of San Luis Potosí.

<sup>11</sup> Early Teotihuacán II-III cultures according to sherd analyses by Sr. Luis Avellyra, who also examined the pottery from El Terremoto mentioned in the following paragraph.

<sup>12</sup> These determinations were made by Dr. F. Haas, Chicago Natural History Museum (formerly Field Museum of Natural History). *Succinea undulata* were abundant, several hundred specimens being collected within a few hours. The presence of a few examples of the marine shell, probably from the Gulf of Mexico, indicates trade connexions, although the smallness of these shells suggests their use in necklaces or ornaments rather than as food.

<sup>13</sup> With the permission and encouragement of Dr. Daniel Rubin de la Borbolla, Director, National Museum, Mexico City. The specimens collected in Morelos were presented to the National Museum.

<sup>14</sup> According to de Terra, 'the Chalco culture presumably covers a very long period following the big-game-hunters. Whether Cuernavaca actually belongs in the Chalco complex I do not know. It is queer that the implements should have come from around the pyramid, suggesting really some connexion with a pre-Toltec ceramic culture. I miss in your collection the tool most typical for Chalco, namely the "pulper" (Haury's term), a plano-convex scraper probably used for beating the agave fibre.'

<sup>15</sup> Assisted on various occasions by my wife, Miss R. Bridgers, Niels de Terra, Mariana Field and Allen Price.

<sup>16</sup> Attention was called to this site by a reference in George Vaillant's *Aztec of Mexico*, New York, 1941, p. 276 and Plate 3.

<sup>17</sup> On this occasion I was accompanied by my daughter Mariana, aged seven, who found her first obsidian arrowhead.

<sup>18</sup> This recommendation and that for similar work at Palmyra rock shelter were made to Dr. Rubin de la Borbolla, Director, National Museum.

<sup>19</sup> The largest and most famous caves in this region are known as Las Grutas de Cacahuamilpa. Although in Guerrero, these grottoes must be considered in this general area.

<sup>20</sup> A visiting anthropologist would point him out as a 'primitive' type of Mexican Indian.

<sup>21</sup> In April, 1947, I searched in a wide, dry stream bed between Ciudad Bravos (formerly and still generally known as Chilpancingo at 300 kilometres) and the Papagayo River in the Tierra Colorada country. No stone implements or flakes were found despite brief stops at different points.

<sup>22</sup> To broaden our base of study, account must also be taken of the results obtained by North American archaeologists and anthropologists and those of G. F. Debets and his colleagues in north-eastern Siberia. Early in the next decade, when these results are available, some positive conclusions should be possible.

## ROYAL ANTHROPOLOGICAL INSTITUTE PROCEEDINGS

### Ancient Mining and Metallurgy Group: Preliminary Report, Part II

#### I7 Notes on Some Analyses of Native Copper and Ancient Artifacts

Relatively few analyses of native copper have been found in the literature. Seven examples, all of American origin, were reported in 1894 by Douglas, whose figures are given in Table I. Though the results are given to an impressive number of significant digits, quite large amounts remained unaccounted for in most cases, and the analyses cannot therefore be regarded as exhaustive.

Sixteen samples of native copper, recently collected from various sources, have been analysed spectrographically with the results given in Table II. The spectrograph does not reveal the presence or absence of oxygen (i.e. cuprous oxide) in copper, nor can sulphur and selenium be detected spectrographically. Certain elements such as silicon, aluminium and to a lesser extent magnesium are probably present mainly as small entrapped particles of rock or earthy matter, and little significance should thus be attached to the somewhat variable figures given for them.

In Table II the columns headed 1A and 1B refer to two specimens from the same source submitted to the analyst under different



TABLE I.—ANALYSES OF AMERICAN NATIVE COPPERS (J. Douglas, *Mineral Industry*, 1894, III, pp. 243-8)

Reference No.	1	2	3	4	5	6	7
Source	Tamarack Mine	Kearsarge Mine	Isle Royale	Osceola	Franklin	Illinois	Cobre Mine
Percentage of:							
Copper	99.8049	99.7627	99.9313	99.9500	99.90	99.930	99.880
Silver	0.0151	0.0183	0.071	0.0111	trace	0.007	0.0056
Iron	0.0240	0.0223	0.0069	0.0200	0.018	0.014	0.019
Arsenic	trace	trace	trace	trace	none	none	0.0087
Antimony	—	—	—	—	—	—	trace
Lead	—	—	—	—	none	none	—
Nickel	—	—	0.0037	—	—	—	—
Silicon	0.0193	0.0210	—	—	—	—	—
Unaccounted for	0.1367	0.1757	none (0.0129)	0.0189	0.082	0.049	0.0847

TABLE II.—SPECTROGRAPHIC ANALYSES OF NATIVE COPPERS

Ref. No.	1A	1B	2	3	4	5	6	7	8
Source	Lizard, Cornwall		Gwennap, Cornwall	Relistian, Cornwall	Wheal Phoenix, Cornwall	Tavistock, Devon	Renfrew, Scotland	Naalsøe, Faeroes	Ems, Nassau, Germany
Percentage of:									
Antimony	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Arsenic	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Bismuth	n.d.	n.d.	0.0001	0.0006	n.d.	n.d. 0.0001	n.d.	0.0003 0.003	0.0003
Cobalt	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Iron	0.0002	0.0002	0.0002 0.003	0.0002	0.0002 0.005	0.03	0.001	0.0002	0.0002 0.0005
Lead	n.d.	n.d.	0.0004 0.006	0.0003 n.d.	n.d. 0.0003	0.0003	0.0003	0.0004	n.d. 0.0003
Phosphorus	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Manganese	n.d.	n.d.	n.d. 0.005	n.d.	n.d.	n.d.	n.d.	trace 0.001	n.d.
Nickel	0.01 approx	0.06 approx	n.d.	n.d. 0.0006	n.d.	0.0006	0.0003	0.0003	n.d. 0.002
Silver	0.002	0.003	0.003	0.002	0.002	0.002	0.002	0.003	<0.002 trace
Tin	0.0005	0.0005	0.001 0.005	n.d. 0.0005	n.d.	0.0005 0.003	0.0005	0.0005	0.005 0.0005
Zinc	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Tellurium	0.005	0.005	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Gold	—	—	n.d.	—	—	—	—	—	n.d.
Magnesium	trace	trace	—	n.d.	n.d.	trace	n.d.	trace	—
Silicon	0.1	0.008	0.1 approx.	0.08 0.008	0.008	0.08	0.08	0.1	<0.008 0.1 approx.
Aluminium	n.d.	n.d.	small quantity	n.d.	trace	present	present	present	trace large quantity

TABLE II (continued)

Ref. No.	9	10	11	12	13	14	15	16
Source	Ems, Nassau, Germany	Rio Tinto(?), Spain	Moldova, Hungary	Bogoslovsk, Urals	Bogoslovsk, Urals	Lake Superior	Chino, New Mexico	Broken Hill, Australia
Percentage of:								
Antimony	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Arsenic	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	0.02	n.d.
Bismuth	0.0001	n.d.	n.d. 0.0001	n.d. 0.0001	n.d.	0.0001	n.d.	0.0006
Cobalt	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	0.0004
Iron	n.d. 0.0002	0.0005	0.0002	0.0002	n.d.	0.0002	0.0005	0.06
Lead	0.0004	n.d.	n.d.	0.0004	n.d.	n.d.	0.0003	0.0005
Phosphorus	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Manganese	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	0.005
Nickel	0.0001	0.0003	n.d.	n.d.	0.0001	n.d.	n.d.	0.0006
Silver	0.003	n.d.	n.d.	0.003	0.002	n.d.	0.005	0.005
Tin	0.0005	0.0005	n.d.	n.d.	0.0005	n.d.	n.d.	0.0005
Zinc	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Tellurium	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Gold	—	—	n.d.	n.d.	—	n.d.	n.d.	—
Magnesium	n.d.	n.d.	—	—	n.d.	—	—	present
Silicon	0.008	0.08	<0.008	<0.008	0.008	<0.008	<0.008	0.08
Aluminium	n.d.	present	n.d.	trace	n.d.	trace	n.d.	present

reference numbers: the good agreement between the two samples indicates the reproducibility obtainable by the method. In other cases two figures given for the same element represent photographs of different samples of the same specimen. The letters 'n.d.' stand for 'not detected' and indicate that the copper was substantially free from the element in question.

Table II shows that native coppers are usually very pure indeed, more so than would be expected from the earlier analyses given in Table I. Differences in the analyses are slight, and it is therefore unwise to attribute too much significance to them. Certain indications of impurities characteristic of the different geographical localities can, however, be discerned by a close examination of the table. Antimony, phosphorus and zinc were not detected in any of the samples and these, together with silicon, aluminium and magnesium (for the reason already given), need not be considered. Arsenic was detected only in the North American sample No. 15,

without melting. On the other hand, the table supplies no evidence that different samples from the same mine are of similar composition, and it is certainly not true to say that all samples from different mines in a district even as small as the West of England are similar, though three of them, from Gwennap, Relistian and Tavistock respectively, were not unlike each other.

Table III records the spectrographic analyses of six ancient artifacts. On the whole they were distinctly less pure than the native coppers: for instance, they all contained antimony and five of the six contained zinc, neither of which elements were detected in any of the native coppers. Both the iron and lead contents were generally higher than those of the native coppers. It may be inferred that all these artifacts had been prepared either from native copper by melting or from copper ore by smelting. Permission was obtained to cut a small sample from one of them, namely the Danubian Axe-hammer No. 4, for micrographic examination.

TABLE III.—SPECTROGRAPHIC ANALYSES OF ARTIFACTS

Reference No.	1	2	3	4	5	6
Description	Celt from Ireland	Celt from Cyprus	Axe-hammer, Pesth, Hungary	Axe-hammer, Danubian III, Hungary	Prehistoric Cutting Implement, El Amrah, Egypt	2nd Dynasty Cutting Implement, Badari, Egypt
Percentage of:						
Antimony	0.05	0.0005	0.0005	0.001	0.0005	0.03
Arsenic	n.d.	0.04	0.002	0.005	>0.05	>0.05
Bismuth	0.005	0.0003	0.0003	0.0003	0.0003	0.0003
Cobalt	n.d.	0.0001	n.d.	n.d.	0.001	0.001
Iron	0.01	>0.05	0.01	0.05	>0.05	>0.05
Lead	0.0004	0.0004	0.008	0.008	0.05	0.05
Phosphorus	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Manganese	0.001	n.d.	0.001	0.001	n.d.	0.001
Nickel	0.0003	0.001	0.002	0.001	0.03	0.03
Silver	0.005	0.002	0.003	0.003	0.003	0.005
Tin	n.d.	0.0005	n.d.	n.d.	0.5	0.001
Zinc	0.001	n.d.	0.005	0.001	0.005	0.001
Tellurium	n.d.	n.d.	n.d.	n.d.	n.d.	trace
Magnesium	trace	trace	small quantity	trace	trace	trace
Silicon	0.07	0.07	0.04	0.01	0.03	0.03
Aluminium	small quantity	trace	small quantity	trace	trace	trace

while traces or more of arsenic were reported in all but two of the North American samples of Table I: there are insufficient analyses, however, to justify an assumption that the presence of arsenic may be a peculiarity of North American native copper. Sample No. 16, from Broken Hill, New South Wales, was considerably less pure than any of the others: unlike any other sample, it contained cobalt, while the bismuth, iron, lead, manganese and silver contents were among the highest recorded, in addition to appreciable quantities of nickel and tin. Sample No. 1 from the Lizard, Cornwall, was unique in containing tellurium and was further characterized by a much higher nickel content than any of the other samples: it contained no bismuth. The purest sample was No. 11 from Moldova, Hungary, containing nothing other than minute amounts of bismuth and iron. The remaining samples contained various impurities, often in apparently characteristic groupings; thus bismuth, iron and lead were the only elements detected in No. 14 from Lake Superior, while No. 13 from the Ural Mountains contained only nickel, silver and tin.

From such considerations it seems possible that a table such as this, but considerably extended, might serve as a guide to the locations of the source of artifacts fabricated from native copper

This contained cuprous oxide and had beyond question been in the molten condition. It had probably been made by casting. It should be noted that the two Hungarian specimens Nos. 3 and 4 were very similar to each other in composition; so were the two Egyptian implements Nos. 5 and 6, except in respect of tin content, which was very high in one of them. The celts from Ireland, No. 1, and from Cyprus, No. 2, each had a characteristic analysis unlike either of the other pairs. From these observations it may be deduced that the raw materials and metallurgical processes were similar in the same region but, as might be expected, differed considerably in different parts of the world.

Artifacts made by melting native copper or by smelting from copper ores would almost certainly contain cuprous oxide. Conversely, any ancient artifact free from cuprous oxide was probably made from native copper by hammering to shape without melting. Because spectrographic analysis does not reveal the presence or absence of cuprous oxide, metallographic examination is also highly desirable in order to elucidate the manner in which the artifact was made. Such examinations are practicable on very small portions of material.

E. VOCE

Copper Development Association



## REVIEWS

## AFRICA

**The Dynamics of Clanship among the Tallensi.** By Meyer Fortes. Published for the International African Institute by the Oxford University Press, 1945. Pp. 270. Illustrations and map. Price 30s.

**18** The peoples living in the vast countries of the Niger bend, bounded on the west by Mande, on the south by Akan and Ewe, on the north by Tuareg, and reaching eastward into the north-west corner of Nigeria, form a cultural and still more a linguistic unit; the linguistic unity being demonstrated most clearly by the fact that all of them have nominal classes formed by suffixes, though there is also a definite relationship in grammatical details and in vocabulary.

The main larger section of these people are Mossi-Dagomba, Grussi, Lobi, Tombo, Kulango, Senufo and an eastern branch comprising Gurma, Bargu and Tem—each of them being subdivided into a number of groups. The eastern half of this mass of small ethnic groups was deeply disturbed in its primitive secluded existence by an invasion of horse-owning and warlike strangers who came, about 1,000 years ago, from the east across the Niger. They subjected the indigenous population and formed the kingdoms of Mossi, Dagomba and Gurma, besides a number of smaller ones, such as Mamprussi.

The people who form the subject of the present book are the Tallensi (sg. Talenga). They occupy less than half of the Zuarungu district in the Tonga Hills of the Northern Territories of the Gold Coast. They number about 35,000, and their neighbours are the Kussassi on the east, the Nabdam on the north, the Nankanse or Goronsi on the west and the Mamprussi on the south; all of these, including the Tallensi themselves, belong linguistically to the Mossi-Dagomba dialect cluster. We owe to Rattray (*The Tribes of the Ashanti Hinterland*, Oxford, 1932) the first anthropological study of these tribes. This investigation is now being carried on and intensified by Fortes. His work covers only a small tribe, but it is profound, penetrating and illuminating to a very high degree, it leaves no corner of clan life in the dark, and it contains many proofs that the author got into close touch with the people and so understood them.

All the tribes penetrated by the Mossi-Dagomba invasion comprise two distinct sections of communities: those that claim to be the descendants of immigrants from parts of the country other than

their present habitats, and those that claim to be the autochthonous inhabitants. The two groups live side by side and are indistinguishable from each other by broad cultural or linguistic criteria. Many chiefs of the Tallensi are up to this day appointed by the paramount chief of the Mamprussi, though this is only a symbolical, not a political, act. The descendants of the immigrants, most of whom claim Mamprussi origin, are called *namu* by the Tallensi. The non-*namu* hold the office of custodian of the earth (*tendaana*), a person who is responsible for the fertility of the soil and the thriving of the crops—a fact which secures to the aboriginals a certain spiritual superiority—while the *namu* are inclined to regard themselves as politically leading. But actually there is definite collaboration between chief and *tendaana*, between the power that binds man to the earth and the conviction that the attainment of prosperity and security for the individual as well as for the community depends upon the integration of the community, which is the main concern of the *namu*, and which finds its significant expression in common ancestral sacrifices.

Tallensi society is built up round the lineage system. A lineage means, to the Tallensi, 'an association of people of both sexes comprising all the known descendants by a known genealogy of a single known and named ancestor in an unbroken male line.' A group of cognate lineages forms a clan, and within this marriage is prohibited. A man 'may not, according to strict rule, marry cognatic kin of any degree whatsoever.' The clanship system involves a number of most intricate views and institutions, such as clanship and ritual collaboration, totemism, the place of women in the clan organization, the social structure of settlements, the Land and the Earth, the lineage in the local community and the form of Tallensi society.

The meaning of clanship in primitive society has hardly ever been expounded more fully and in a more illuminating way than in the present book. It is an essential contribution to anthropology and sociology, but also an immediate help to the administrator. Rattray's book mentioned above and Labouret's work *Les Tribus du Rameau Lobi* form corollaries to Fortes' publication, and the three of them enable us to penetrate into the basic principles of the social structure of this large community of tribes.

D. WESTERMANN

## ASIA

**Investigations into Prehistoric Archaeology of Gujarat.** By Hasnukh D. Sankalia. *Sri-Pratapasinha Maharaja Rajyabhisheka Grantha-mala, Memoir No. IV*. Baroda State Press, 1946. Pp. xviii, 336, with 8 figures, 31 plates, 6 maps. Price Rs. 21

**19** This publication continues a series devoted to the art and archaeology of Gujarat and the adjoining areas of Western India. It is an account of the work of the First Gujarat Prehistoric Expedition, sponsored by Rao Bahadur K. N. Dikshit, then Director-General of Archaeology in India, and led by Dr. Sankalia, which spent some ten weeks in north and central Gujarat during the cold weather of 1941-2 searching for palaeolithic remains and excavating microlithic sites. The route followed by the expedition was based largely on the clues left by Bruce Foote, who fifty years before had discovered prehistoric implements in this area when engaged on a geological survey of Baroda.

The opening chapter, on the topography and geology of the area, is followed by an account of the palaeolithic industries discovered at several sites along the banks of the Sabarmati River in northern Gujarat and of the Orsang River in central Gujarat. The most prolific were in the neighbourhood of Pedhamli, a village thirteen miles north-east of Vijapur, near which some 200 artifacts were discovered *in situ* in the banks of the Sabarmati. The finds here were made at three levels: in a gravel conglomerate (lying above a bed of laterite); at the junction of the gravel and an overlying reddish silt; and in the silt itself, which was in turn covered by a thick deposit of loess. The artifacts from each level, the great majority of them

unrolled, are first classified according to type—hand-axes, cleavers, scrapers, pebble tools and flakes—but unfortunately the classification is somewhat complicated and at times even misleading, as when pebble tools are divided into (a) cores and (b) flakes (p. 25). A detailed inventory of the finds is also given, but the description of individual specimens is often inadequate and sometimes difficult to follow. Moreover, certain flakes are described as Levallois-like, or as showing Levallois technique, without any apparent justification. At each level there is the usual association of rough, poorly made specimens with others showing more skilful workmanship; the author does not seem to be aware that this association is quite natural and can be observed in almost any industry, for he proceeds further to divide the finds from each level into two 'industries,' 'inferior' and 'superior,' which he considers to represent the Abbevillio-Early-Acheulian and Late Acheulian respectively (pp. 131f.). Stratigraphically, on the other hand, he sees little evidence of any evolution from one level to another. In point of fact, such a development seems to be clearly indicated, for, judging from the descriptions, photographs and drawings of the artifacts, the industry from the gravel appears to be Middle Acheul—or, taking into account the presence of typical Soan pebble tools, Middle Soan Acheul, using Paterson's terminology—while that from the overlying silt is typical Upper Acheul, closely akin to the Upper Acheul of Madras.

The next part of the book is devoted to a description of the microlithic industries found at various sites in north and central

Gujarat. Some of these were surface finds, but excavations were carried out at two sites in the north, Hirpura and Langhnaj. The microliths are roughly classified into cores, blades, scrapers and points, and seem to consist mostly of small flakes and blades. Some crescents occur, but geometric types are rare, and no micro-burins were found, or at least none appear to have been recognized. Potsherds were found at the higher levels in the excavated sites, also many small bone splinters, some of which, it is claimed, have been humanly worked.

In the final chapter the palaeolithic and microlithic industries of Gujarat are compared with those in other parts of India and elsewhere. The palaeolithic section consists largely of a somewhat tedious comparison of individual Gujarati specimens with similar specimens which have been described and illustrated from other areas; this detailed comparison seems not only unnecessary but at times even misleading, e.g. when it is based on form alone. In the microlithic section further details are given of the pottery and bone tools, and the author concludes with the suggestion that these industries may be earlier in date than is sometimes thought to be the case in India.

An appendix of over 150 pages (nearly half of the book) is devoted to a catalogue of the microlithic finds, both surface and excavated. This policy of listing and describing every individual find shows a praiseworthy attention to detail, but it is very doubtful whether it is justifiable and worth so much space, more particularly as the description of the artifacts is often by no means clear. A classification of the finds into types, with the numbers and a general description of each type, would effect a great saving of space and give a clearer picture of the industry of each site as a whole than is provided by the inventory together with the rough classification attempted in the book.

At the end of the book are several good maps and plates, including photographs of sites and artifacts, and also a series of drawings of the latter. These are not of a very high standard; admittedly the technique of drawing stone implements is a difficult one, but it must be learned, if the artifacts are to be properly portrayed.

If an undue amount of time and energy has been expended on describing the results of what was, after all, a comparatively small expedition and could have been adequately reported in considerably less than half the space, the work of the expedition nevertheless gives proof of the interest that Indians are taking in the prehistory of their country, and in its relations with the rest of the world from the earliest times. It is very much to be hoped that it will stimulate and encourage workers in other parts of India. H. J. H. DRUMMOND

**The Junks and Sampans of the Yangtze.** By C. R. C. Worcester. *Chinese Maritime Customs, Misc. Series, No. 53. Shanghai,*

20 1947

This first volume of the above publication deals with the craft of the Yangtze Estuary and the Shanghai area. The companion volume (Vol. II) will treat of the craft found between the estuary and the distant sources of the great river system of which the Yangtze is the main stream: mainly harbour and river sampans, together with a strange assortment of primitive rafts and tub-boats.

The craft dealt with in the present volume are generally large, sea-going vessels frequenting the coastal ports, and small craft such as harbour and river sampans, satellites generally of the larger boats. This publication is most welcome; it brings together nearly all that great mass of information on this subject which has appeared scattered through the pages of a number of journals, notably in the *Mariners' Mirror*, to which Mr. A. Donnelly has contributed a great quantity of valuable information.

The subject possesses the charm of endless diversity. The Chinese waterfolk are generally considered to be an intensely conservative people, loth to change, strenuously clinging to old and traditional design and practice and, in consequence, far behind the West in inventiveness. The truth is far different: centuries before the West had invented or borrowed the idea, the Chinese had adopted the use of watertight bulkheads to divide the hull into a number of compartments, whereby the peril from dangerous leaks was minimized; they invented an early form of the mariner's compass while yet the western sailors were dependent upon the stars for guidance. Even today several Chinese inventions are ahead of Western design, e.g. the use of a fenestrated rudder, and the fitting of battens to the sails to give them that flat surface conducive to the utilization of the wind's propelling power to the best advantage.

Space forbids any attempt to give a synopsis of the many types of craft described. Suffice it to say that, within the limited area treated of, the designs of all the principal varieties are described in adequate fashion. How thorough is the treatment may be judged from the fact that the illustrations consist of eighty-three full-page plates, mostly including scale plans and details, together with seventeen illustrations in the text and a valuable chart of the maze of waterways lying between Shanghai and Nanking. The text is voluminous and precise, running to 245 quarto pages. This work, which, we are informed, is the outcome of many years' first-hand investigation, has been made possible by the position of the author in the Chinese Maritime Customs, an administrative body noteworthy for the wonderfully efficient work they have done and also for the compliment paid by the Chinese Government to this country by staffing it very largely with men of British origin.

The folk-lore interest of the subject finds incidental mention; on page 43 the curious geographical distribution of the oculus is mentioned. Found sporadically in the north, it is never found on Yangtze river craft; its range is mainly on the coast from the mouth of the Yangtze to Amoy. Whence its use was introduced is still an unsolved problem. An interesting footnote on the same page is given: 'In fishing junks the eyeball is often set low, so as to be on the alert to observe the fish, unlike the trading junk, wherein the eye looks straight ahead so as to perceive and avoid distant perils, invisible to mortal sight.'

Taken all in all, this work is one of the finest contributions to nautical research in extra-European waters since Admiral Paris's monumental work. The Chinese Maritime Customs are to be congratulated upon their liberality in affording the author opportunities to study this subject in detail and in presenting his work in such a handsome form, well printed in clear type.

JAMES HORNELL

## CORRESPONDENCE

**Early Foreign Trade in East Africa.** Cf. MAN, 1947, 161

21 SIR,—In connexion with Mr. G. A. Wainwright's stimulating paper on the occurrence of objects traded from the centres of higher civilization to the barbarians of East Africa in ancient times, it seems worth while to draw attention to a find not mentioned by him, but falling into the same general class as those he describes.

In his classification of prehistoric cultures in Kenya Colony, L. S. B. Leakey defined the Gumban B culture largely from a burial site at Nakuru, where the material included a microlithic obsidian industry, pestles and mortars of stone, stone bowls and human inhumations. But in addition to these finds of local origin a burial was accompanied by two beads which are clearly imported (Leakey,

*Stone Age Cultures of Kenya Colony*, pp. 200-5). These beads were the subject of a report by the late Mr. Horace Beck (*op. cit.*, Appendix F), in which he described one bead as a circular barrel bead of agate and the other as a short cylinder bead of faience: neither bead is illustrated, nor is the colour of the faience stated. But Beck, while regarding the agate bead as likely to be of Mesopotamian origin, stresses the virtual certainty of the faience example being an actual import either from Egypt or at least from the Eastern Mediterranean, the best parallels in his opinion being Late Helladic faience beads from Mycenaean sites in Greece. Beck further cites as possibly comparable certain beads from Algeria, presumably those from the Pic des Singes cave near Bougie (*Mém. Soc. Arch. du Départ. de Constantine*, Fourth Series, VIII (1906), p. 69), where, so far as can be

gathered from the not very illuminating text and illustrations, there was some case for assuming local manufacture of the faience.

But the importance of the Nakuru faience bead lies in its relationship to what can now be recognized as a widespread trade from the Eastern Mediterranean c. 1400 B.C., which included among its objects of barter the strings of beads represented, as Wainwright points out, among the exports taken by Hatshepsut's trading expeditions to the Land of Pwenet, but which did not only reach the lands to the south of Egypt. The presence on a great number of prehistoric sites in Northern Europe of faience beads, probably of Egyptian origin and certainly coming from some trading centre in the Eastern Mediterranean, has been, since Beck and Stone's classic paper of 1936 (*Archæologia*, LXXXV, pp. 203-52), established on a firm foundation, and since 1936 our information has been augmented by the recognition of many additional sites, notably along the Danube (cf. Childe in *Amer. Journ. Arch.*, XLIV (1939), p. 23). As in the time of the *Periplus of the Erythraean Sea*, so aptly cited by Wainwright, so at all times there must have been the necessity not only of direct trade but of some means 'for getting the good will of the savages,' and with Pharaonic Egyptian merchants, as with the European traders of the nineteenth century A.D., a handful of blue beads might go far in this direction. STUART PIGGOTT  
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22 SIR,—I should like to comment on some points in Mr. Wainwright's interesting paper.

(1) Mr. Wainwright suggests that the name spelt Pwnt was probably pronounced Pwēnet or Pwēne rather than Punt. Now there is, I believe, little reason to doubt that the Ὠπώνη of the *Periplus Maris Erythraei* and Ptolemy is the Ras Hafūn of the modern Somali, and that both represent the Egyptian Pwnt (or perhaps we should rather say that Pwnt is the Egyptian version of whatever name Opōnē represents), a name which goes back at least to 2725 B.C. Meinhof's comparison of Pwenet with the modern Swahili *pwani* ('coast') overlooks four things: (i) *Pwani* is divided *pwa-ni*; it is the word *pwa*, 'coast' (plur. *mapwa* < *pwa*, 'become dry') with the locative suffix *-ni*, and therefore means literally 'on the coast.' But it has in course of time lost its purely locative significance and become the more usual word. If *pwenet* = *pwani*, then it must be shown that the stem of *pwenet* is *pwe-*, not *pwen-*. (ii) *Pwani*, being a derivative of *pwa*, is obviously a late rather than an early formation. (iii) It is doubtful whether even the germs of Bantu speech existed as early as 2725 B.C. It is certainly more than doubtful whether a word formed like *pwani* existed even 2,000 years later than that date. (iv) The existence of a stem *pwa* = 'dry,' which might be common to both Bantu and 'some other ancient African language,' would not help on account of the etymology of *pwani*. I think, then, that Pwenet cannot safely be connected with *pwani*, and that we may continue to pronounce the name as Punt.

(2) Adule is much more likely to be Zula, thirty miles south of Massawa, where there are numerous ruins. From Zula, too, a road leads to Kohaito, which fits the description of the Cōlōē of the *Periplus* better than any other place, and where there are extensive ruins of the same type as those at Zula. The modern name Zula seems to represent the ancient Adule.

(3) Schoff does not make it clear that the rendering 'Ausanitic coast' depends entirely on an emendation. There is only one MS. of the *Periplus* (Heidelberg 398, saec. X—two, if we include as an independent MS. the late fifteenth-century copy in the British Museum, No. 19391), and the text has these words in Chap. 15, where the supposed reference to Ausan occurs: ἀφ' ἧς μικρὸν ἐπάνω τοῦ λιβὸς μετὰ δύο δρόμους νυχθημέρους παρ' αὐτὴν τὴν δύσιν εἰτενηδιωμμενουθεσίς. Apart from the impossibility of an island lying westwards from a coast which faces east, the last word in this sentence is nonsense as it stands. A suggestion is quoted by Muller (*Geog. Gr. Min.*) that the last five words should read παρ' αὐτὴν τὴν Ἀουσινεῖτην ἡνὸν Μενουθεσίς, 'going past the Ausanitic coast [lies] the island of Menuthesis.' Ἀουσινεῖτην is preferable to Ἀουσινεῖτην since the former is more likely to have led to the corruption δύσιν than the latter. It is worth remembering that the alleged extent of Ausanitic influence depends therefore on an emendation.

(4) In identifying Rhapta with Bagamoyo or Dar es-salaam, Schoff overlooked the fact that the place is said by Ptolemy to be near the mouth of a river which he calls Ῥαπτός ποταμός. There is no river at all at Bagamoyo, and those at Dar es-salaam are too insignificant to justify the word ἐκβολαί used by Ptolemy (IV, 7, 12). Pangani is the only town between Mombasa and Lindi which lies near the mouth of a large river, and it is here that we should look for Rhapta. G. W. B. HUNTINGFORD  
*Boars Hill, Oxford*

**Pottery Fragments from the Jebel Kosseir.** Cf. MAN, 1940, 193 and 194

23 SIR,—May I refer to my note on pottery fragments from the Jebel Kosseir, published in MAN, with a comment by Mallowan, in 1940? The animal on the second sherd (figs. 2 and 4) is mislabelled. It is clearly not a goat, but an ass (*Equus asinus* L.), Ar. *himar* (N. Syr. dial. *jalīsh*), Turk. *eşlek*.

I have no quarrel with Mr. Mallowan's observation on local equitation, but I am curious to know where he saw peasants riding on goats.

C. W. McEWAN  
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**A Pot from Oyo, Southern Nigeria (Illustrated)**

24 SIR,—In August, 1934, Mrs. Mackenzie, wife of J. Mackenzie, Esq., Senior Resident, gave me the pot illustrated herewith. It is now in the Pitt-Rivers Museum, Oxford. Its history is unknown except that Mrs. Mackenzie rescued it from the earth thrown out during building operations at Oyo, in Yorubaland, some years before.

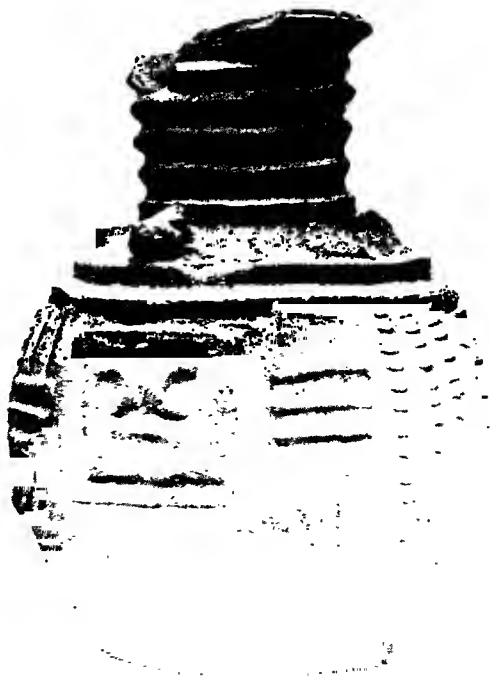


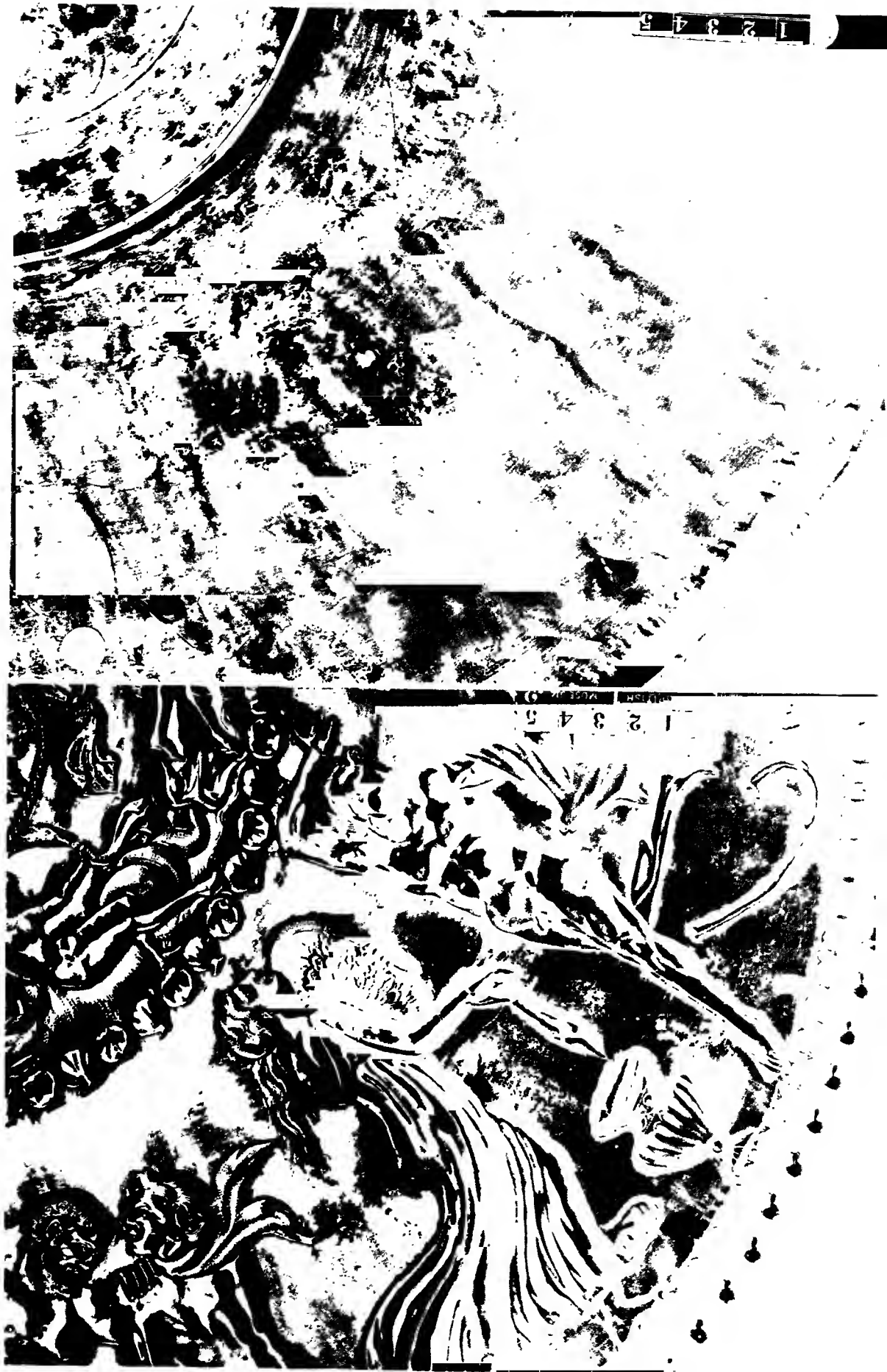
FIG. 1. POT FROM OYO

Copyright: the Wellcome Historical Medical Museum

The pot appears to be fairly old, coarsely made and somewhat damaged. The pattern is incised, but what is of interest is the square and remarkably conventionalized face carved on the pot. I would be glad to hear of any similar types of pottery faces.

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# THE MILDENHALL TREASURE: PART OF THE NEPTUNE DISH

In the photograph of the underside (right) the following points where depressions correspond to raised areas on the front are indicated by letters: A, vase; B, man's thigh; C, just above woman's knee; D, her arm; E, her pelvis; F, man's foot; G, acanthus border within beads; H, woman's shoulder. All above this has been lost in the scraping which the dish has undergone.

*By courtesy of the Trustees of the British Museum.*

# THE MILDENHALL TREASURE

## SOME TECHNICAL PROBLEMS: PART I\*

by

HERBERT MARYON

**25** Among the many questions arising from the discovery of the great hoard of Roman silverware at Mildenhall are some interesting technical problems. How were these works produced? Were the figure and animal designs upon them the result of casting, carving or *repoussé* work, or were they produced by some other method? Again, the beaded edges, such as those upon the 'Neptune dish' and some other pieces, how were they made?

These questions seem to have produced some surprisingly diverse replies, for work of this character is comparatively rare. It seemed likely, therefore, that a close examination of a few of the pieces might elicit useful information. They were the Neptune dish (1946. 10-7. 1; *The Mildenhall Treasure: A Provisional Handbook*, British Museum, 1947, No. 1); the shallow platters with figure decorations in the field (1946. 10-7. 2 and 3; *Handbook*, Nos. 2 and 3); and the four large flanged bowls (1946. 10-7. 5, 6, 7 and 8; *Handbook*, Nos. 7-10). These works seemed to form a fairly closed group, and it became clear that so far as they were concerned some general answers to the questions asked might be given. It was noted that they had these qualities in common:

(1) They were all made from thick silver, about one-tenth of an inch thick—a thickness rather greater than is usual or convenient for *repoussé* work.

(2) The relief decoration on the front evidently had not been produced by driving it up from the back.

(3) The background, though severely scraped, was uneven in level. It dipped down extremely suddenly alongside the figures, especially in the Neptune dish (fig. 1), and the craftsman had not troubled to level it off further out.

(4) The back of this dish, though it also had been severely scraped, showed raised lines, bands or patches corresponding with the most depressed areas on the front (fig. 2); and the most convex portions of the figures in front had shallow depressions on the back beneath them.

(5) The work on the shallow platters, however, though in front generally similar in character to that of the Neptune dish, showed a different effect at the back. Here the whole of the surface between the figures exhibited a flat, bruised appearance as though it had been beaten down on to a roughish stone or anvil. The undersides of the figures were very slightly hollowed: but not by *repoussé* work.

(6) The surface of all the works under discussion had been scraped before polishing, and the marks of scraping remained.

(7) While the parts in high relief on the flanged bowls had been rubbed fairly smooth, there were parts in low relief and on the background where a rougher surface texture remained, suggesting a surface produced by casting.

(8) A few patches of rough texture on the background of the shallow platters suggested that the cast surface of the original ingot may have survived here also.

Naturally the question arose whether these works were cast. Now the first problem which would confront the Roman craftsman who was asked to make these dishes would concern the provision and preparation of his material: either the ingot or the disc of silver on which he might work or carve his design, or the preparation of the model in relief from which he might cast it. Let us consider the processes involved.

Native silver was known in Egypt and elsewhere before 1500 B.C., but the Roman craftsman in the fourth century A.D. would not be able to rely upon the discovery of pieces of a size suitable for his work: he must cast his own ingots. The form in which he would cast them would depend upon his decision as to the method he would employ to produce his figure patterns: he must either cast a plain ingot or slab of silver and work the designs upon it, or he must model the design first and cast that. If he chose the latter method, what did it involve?

To produce the metal cast for such a work, it is generally necessary to prepare first the pattern or model for any ornamental design upon it, from which the mould may be taken. This pattern may be in wax, wood, plaster or some other material. However, by an alternative method the design may be incised directly into the surface of a piece of fine terracotta or tile. Indeed, for some ornamental work this is the quickest and most reliable method, for one is able to produce the more important face of the mould directly, by carving or scraping the design upon, or rather in, the surface of the tile, and this without the intervention of a modelled pattern, which would have to be followed by a mould. When carving the design in the terracotta slab the craftsman would take a 'squeeze' or trial impression from time to time in wax or some other suitable material. When the modelling, in reverse, of the design was finished, the Roman craftsman might give his work a thin coating of grease and soot, just as a modern workman would brush it over with blacklead, to ease the flow of the molten metal. Next he would prepare a flattened wire of the thickness of the proposed cast, bend it to the size and shape of the disc or panel he required and lay it upon the carved mould. Then he would take the backplate—another plain, unglazed slab of terracotta, and clamp the three firmly together. After careful drying the mould would be ready for the metal. This is a direct and straightforward method of producing a mould. It has the very great advantage that the

\* With Plate C. Part II, with five text figures, will appear in the next issue of MAN.



craftsman can examine the face of his mould before casting: a quality which is absent, for example, with the waste-wax process.

If, however, the craftsman desired to produce his design by modelling it in wax or clay, let us consider that method in some detail. There were two principal lines of approach. He might either take a flat board or slab and model the design upon it in relief; or he might take a thick slab of clay, carve the background down, and then carve down and model the design in relief. In the first case, the flatness of the background was already provided for, as the board or slab was flat already. By the second method a modern craftsman would remove first as much of the slab as might be required to produce the desired relief in the figures, probably using wire tools. These are loops of stiff wire with rounded or square ends, fixed into handles, and in use will remove strips of clay very neatly and quickly. When the background had thus been lowered, the carving-down and modelling of the figures or ornament would proceed until completion. It should be noted that by this method the background would be sunk below the level of the relief by very efficient tools, and a level surface would be produced with ease. For the decoration of a vase or other curved object, a suitably curved base or foundation would be provided, upon which the modelling might be executed. When the modelling was completed, a mould in plaster might be taken, and a cast made from it. Final retouching of the model could be done directly on the plaster cast. The mould for the metal casting would follow in the usual way. There is, however, an alternative method, in which the surface of the wax or clay model may be given a coat of shellac. This would be oiled, and a mould for metal-casting made directly from it. But this method is not a very safe one, and there is some risk that, if the metal cast is a failure, the model may have been lost too.

It has been suggested that these Mildenhall works were cast by the *cire perdue* process. But, although this process may have been known to the Roman metalworker, he must have been well aware that if there was one type of work for which that process was unsuitable and uncalled-for, it was just such flattish plates with decoration in low relief as these. The waste-wax process has many virtues, but it has also some serious limitations. Let us consider for what kind of work it is especially fitted. For example: forming part of a figure is a half-closed hand; the thumb nearly touches the ends of the first and second fingers, and the little finger nearly touches the ball of the thumb. If the reader will hold his own hand in this pose he will be able to understand some of the problems which would confront the founder. The craftsman wishes to produce a mould (a) from which the model may be removed, (b) into every part of which the molten metal may have free access, and (c) from which all the air may escape, for an airlock at any point would be fatal to the success of the casting.

To meet these demands he has to provide in his mould for the following: a main 'pour' or funnel-topped pipe, into which the metal may be poured (represented by a thick rod of clay or wax with a funnel-shaped top); a number of

'gates' or 'jets,' smaller pipes or openings, leading from the main pour, through which the metal may flow to every part of the work—represented by rods of clay or wax; and a channel or vent, again of clay or wax, running from the upper surface of every finger or other form in the original model, by which the air in the mould may escape as the molten metal fills it up. And finally the mould must be so constructed that the model, together with the pour, gates and vents, may be removed from it.

Now, unless he is prepared to cut the original model into several pieces, there are two principal methods by which this last demand might be met. By the first method the founder might make his mould in many pieces, so devised that they could be removed, one by one, from the model, and yet be so shaped that they might be built up again, and held safely together in order to receive the metal. But if the reader will consider the many awkwardly shaped spaces which lie between the fingers and the other parts of the hand described above, he will begin to realize how difficult a problem the founder must face. Every piece of the mould must be of such a shape as to be capable of removal from the model without jamming, yet some of the spaces between the fingers are narrow, and there is modelling on both sides of them which must be preserved. Again, the material of which the mould is to be made is brittle, so very little straining or wriggling is permissible.

The founder might find a simpler solution to his problem in the *cire perdue* process. Here he must first provide himself with a copy of the model in wax, to be melted out of the mould when that had been formed round it. He would have first of all to make from the original plaster model a complete piece mould in plaster, or a gelatine mould, in which to produce his wax model. He would have to make this mould, and the wax cast, before he began work on the mould in which the metal was to be cast. Only when he had produced his wax model could he proceed to the next stage of the work. The pour, the gates and the vents, all these in wax, would be arranged as described above. The next operation would be the building-up of a mould in one piece, which would fill up all the hollows between the different parts of the model, and would envelop the whole work with a covering strong enough to resist the pressure of the molten metal. When completed, the mould would be dried, stood upside down over a basin, heated until the wax ran out of it, and then fired to a red heat in the ordinary way. No inspection of the face of the mould would be possible, so when it had attained the correct temperature the metal would be poured in. The operations for the removal of the pour, the gates and the vents from the metal cast, and its subsequent chasing-up, are common to both processes. Chasing is the final touching-up of the modelling of the cast metal and the tidying-up of the surface with small punches and chisels to produce the desired degree of finish. Alternatively, the surface may be scraped, or rubbed down with a fine-textured stone where desired, as a preparation for the final polishing.

These brief descriptions of the processes of piece moulding and of waste-wax moulding have been given here in

order to illustrate the problems involved when a work in the round or in high relief has to be cast. In order to simplify the descriptions, all references to the core and the internal supports have been omitted, though both might be necessary. The reader will realize that there are some modelled forms for which the *cire perdue* process of constructing a mould would seem to be the most convenient; but he will realize also that for low-relief work that process would not be called for, since a simple mould of the modelled surface, in one piece, could be obtained directly from the model, and the preparation of the mould for the back and edges of a dish such as these would occasion no difficulties. We may therefore start with the presumption that if the Mildenhall dishes were cast, they are not likely to have been cast by the *cire perdue* process. Fortunately there is other and more direct evidence of their method of manufacture, and we shall discuss this later.

There is one observation to be made at this point which has an immediate bearing on our problem. If the casting is a thick one and it is laid upon a bench or anvil, or fixed upon a pitch block, while the chasing proceeds, the amount of work required in order to produce the final form should not be heavy enough to affect the appearance of the metal

on the reverse side at all. A heavy metal casting will absorb all the blows without exhibiting any disturbance of its underside. The result is different, however, if the cast is a thin one. Then, if it is resting upon some yielding surface, such as a pitch block, and a good deal of work is done upon it, some general approach to the form of the front surface may appear upon the back also, as in a piece of *repoussé* work. But such work should not be called for: the original modelling should have been carried further. However, a thin casting, or an electrotpe, may be worked up considerably by *repoussé* from the back and chasing from the front. Traces of such work may be recognized by the fact that a cast or an electrotyped surface has a slightly roughened or open texture, so that where the *repoussé* or chasing tools have been employed they will have left their mark, recognizable by the flattening-down and consolidating of the actual surface touched by the tool. A chasing tool may leave a slightly hollowed, semi-polished mark; and the slight 'stitch' left as a result of each blow will often reveal, at the bottom of a groove, the work of a tracer. Of course, where the metal has been scraped subsequently, such traces are lost.

(To be concluded)

## A MENDE MUSICIAN SINGS OF HIS ADVENTURES\*

by

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26 During the century before the British assumed their Protectorate there was a great deal of inter-tribal warfare in the hinterland of Sierra Leone. Every chief worthy of the name had his band of mercenaries and employed in addition a number of male musicians. Part of the duty of the latter was to regale the chief and his warriors when they sat carousing in the evening; the entertainment provided included a traditional form of song, known as the *Yomeh*, which has a certain similarity to the European ballad. It consists of a number of verses, and narrates, though in a jocose manner, some popular story or set of events and experiences well known to the listeners.

Nowadays male musicians gain their living mainly as drummers, but a few Paramount Chiefs retain men singers in their households, as well as the women who ordinarily do most of the singing. The musician's duties and material remain largely traditional: he entertains the chief, particularly on occasions when the latter has visitors, and his presence adds a certain amount of prestige to the scene; he also accompanies his patron on his travels, and when visiting a neighbouring chief extols the praises both of the patron and of his host.

The following is a free translation of the *Yomeh*, as sung

\* Material gathered during an investigation carried out under the auspices of the William Wyse Studentship of Trinity College, Cambridge, and of the Colonial Social Science Research Council.

by one of these professional musicians, who is in the service of a chief in middle Mende country. The singer, who accompanied himself on an accordion, delivered the verses as recitative to a set of harmonies. The narrative is sociologically of interest in that it exemplifies a prominent cultural pattern in Mende life, as well as displaying, in the opening verses, the poetic quality of this kind of traditional 'ballad.'

I know the *Yomeh* as Europeans know the English book—they make lorries that can fly in the sky.

I know the *Yomeh* as the prostitute knows the night. She walks about without stumbling against anybody; she never steps on a snake, and no one recognizes her.

I know the *Yomeh* as the alligator knows the river. It has a nose, but it breathes under the water. I know the *Yomeh* as the guinea fowl knows the bush. It has a check garment and yet it stays in the bush.

There are some who say that there are no riches in the bush. Look at an ant hill: it has a helmet that shelters it from the rain. Look at the beetle: he has a coat that does not go round him and yet has three buttons. A bird lives away there in the bush, and it has a wooden house—who is the carpenter? The bush cow wears boots like those of a soldier. The baboon has a black coat like a policeman, and the kingfisher has a silk gown. Why, then, do people say there are no riches in the bush?

I know the *Yomeh* as the snail knows the bush. It goes 'on patrol' <sup>1</sup> with its house on its back. I know the *Yomeh* as the deer knows the bush: it has a pattern gown which does not get torn even going through thorns.



Some people say there is no civilization in the bush. But there is a priest (crow) who spends his time on the palm trees.

Now listen, all of you, to me, and let me tell you about those flighty ladies (*poegbua nyahanga*) and their ways. I left here one day for Koribundo, and thence to Sumbuya. At Sumbuya I announced myself to the Chief, and he gave me lodging for the night. By nightfall we had finished four bottles of whisky and I went out to look for a girl as 'friend.' I espied a pretty lady more beautiful than the moon, and gave her two shillings to show that I loved her. She was afraid that her husband might see us both, and so she took me into a corner, where she agreed to be my 'friend,' and accepted the two shillings.<sup>2</sup>

Later on she sent for me; but when I arrived she refused to enter the room, and so I caught her by the hand and drew her inside. I asked her who her husband was and where he had gone. She said he had gone to Koribundo and that I need not be afraid. Thereupon, I got up and closed the door. But all the time her husband had been there and he came close to the door to listen. I wanted to escape, but the only opening was through the door, and I didn't like to hide under the bed. While I was wondering what to do, she caught me by the waist and said that men were senseless creatures. She opened a big box and told me to get inside. She locked me in it and put the keys under the pillow. Then she let in her husband.

Her husband asked for food. She replied that she had been feeling unwell for a couple of hours past. There was some powdered pepper in the box, and the effect of this and the heat caused me to sneeze. The man enquired what the sound was. She said she had bought some fish and that a big cat had got inside the box, and that she had locked it in to punish it. The husband said that no cat could sneeze as hard as that, and he wanted to see for himself. She protested; but he insisted on searching for the keys. He declared that his wife had been up to some mischief. He turned open the lock, but as he was about to lift up the lid the lady wound her head tie round his face. Then the fight began. You would have thought that two leopards were struggling there. The wife seemed to be having the best of it, and I could hear her scream, 'I'll teach you some sense today.' Lanterns went to pieces, mosquito nets to rags, buckets flew to east and west and the bed collapsed on the ground. And so I took my chance. Half-blinded by the light as I was, I could faintly see the lady with one hand on her husband's throat, pointing the way outside to me, and so I wasted no time. As soon as he got free, the husband stood at the doorway and shouted to all and sundry, 'Come, good people, and see the cat my wife has been fighting for. There it goes—in a white shirt and khaki shorts!'

I got safely away, and some old women took pity on me and gave me oil to rub my face clear of the pepper. The next morning this same lady sent for me again. She asked me to forgive her for last night's happenings, and said she would apologize properly if I would follow her to their farm. The distance there was about a mile, and the husband caught sight of me again and hid himself close by in the bush. On reaching the farm, I asked the lady if she had kept food for me. She took out some rice, but as I started to eat I saw part of the bush nearby shaking heavily. The husband's large gown had caught on the thorns. I saw that we were in for a repetition of yester-

day's 'palaver,' and I was about to take to my heels when the lady caught me by the hand and said I would be cut by the branches if I went off in such haste. She tied up a bundle of unthreshed benniseed and told me to roll myself up in it. She put more bundles on top, tied me up in them, and pushed me, bundles and all, into the barn. Of course, her husband had seen all this, and presently he came in and asked for food. She replied that she hadn't anything with which to make sauce. He suggested some benniseed, and was about to pick up the bundle when she seized him and they began to fight. These 'rally ladies'<sup>3</sup> are as strong as elephants. I could see her buffeting the old fellow, but this time he got the better of her. He took out a knife to cut her throat and she ran away, abusing his mother. The husband then looked round for something larger to push into the bundles of benniseed, and seeing this the wife cried out, 'Look out, you bundle of benniseed; mind you are not threshed out of your stalks—he's desperate!' You can imagine what I felt like when I heard this. I struggled with all my strength, managed to release myself, and dashed off.

I got on to the main road to the town, where she caught up with me, and we ran along together. We lost our way after a time, and stumbled into a Bundu bush.<sup>4</sup> The women there threatened to beat me to death. I cried out for mercy, and they said I must sing them a Bundu song. This is what I sang: *Kpowa we toh—Sowa ngel; kpowa we loma Sunde mɔ ch to oh!* (If the Sowa does not find an uninitiated girl, the society will not work, i.e. will go out of existence—a very satirical comment.) They released me after this, and when I got back on to the road the lady joined me again.

We went on for some time and came presently to a good-sized town, where they were holding a big dance. Thereupon she turned to me and said that she wanted to 'take the devil' i.e. put on the mask of the Bundu 'devil.' I told her at once that I would leave her immediately if she did so. But she thought I was only joking and did as she had proposed. I saw my chance to pay her back for all the trouble she had brought; and so, as soon as she started to dance, I went off and looked for the way home.

Whenever I heard, in the future, that she was near by in a town, I always moved on farther, so as to keep out of the way of this extraordinary woman.

I got home at last, and here I am, telling you the story of my adventures.<sup>5</sup>

#### Notes

<sup>1</sup> To go on patrol, i.e. to tour the country, a common expression which is perhaps derived historically from the quasi-military function of the earlier District Commissioners sent out by the British.

<sup>2</sup> Making 'friendship' in this way is a fairly common practice, but is 'regular' only when the woman is unmarried.

<sup>3</sup> A 'rally lady' is the Creole (Colony) term for prostitute, as applied more often in Freetown. Its use by a Protectorate person implies the alien origin of such behaviour.

<sup>4</sup> The Bundu is the women's secret society.

<sup>5</sup> It will be noted that this tale shows a remarkable similarity of manner and incident with the *novelle* of Boccaccio, Masuccio, Straparola, Margaret of Navarre, *et al.*; and, more significantly, with that fountainhead of the European novel, the *Golden Ass* of the Numidian Lucius Apuleius (*fl. circa A.D. 160*).—ED

## A MICROLITHIC INDUSTRY IN EASTERN MYSORE

by

COMMANDER K. R. U. TODD, R.I.N.

**27** About ten miles north-west of Bangalore city, and one and a half miles from Yesvantpur Railway Station on the metre-gauge railway to Poona *via* Harihar and Miraj, is the large hospital town of Jalahalli, which lies

among the rolling downs, at a height of about 3,400 feet above sea level, and is divided into Hospital Town East and West. Close to 137 Indo-British General Hospital in Jalahalli West and just outside the hospital compound are two

wedge-shaped hills of granite, the nearer rising to the west, the other rising to the south in a large boulder-covered dome and separated from the first by a narrow valley about a quarter of a mile wide at the most. Both are of fine-grained granite, light grey in colour with thin intrusive veins of milky quartz and, in places, rock crystal, and are grass-covered with stunted bushes and shrubs growing on them.

It was on the hill nearest to the hospital that I discovered, in early November, 1946, flakes and implements of micro-lithic type on the surface at the highest point overlooking the valley between the two hills. The further hill is being quarried, the earth being cut away to reveal the underlying granite, which is chiselled into long narrow slabs like monoliths and, more rarely, into rectangular blocks the size of bricks. This was an opportunity to see new and clear sections, and an inspection of the various faces exposed for quarrying revealed, *in situ* below black loam-like earth, the same industry discovered on the first hill. This horizon is from eighteen inches to five feet below the surface and in all cases lies on the basic granite or the laterite deposit, which, where present, overlies the parent rock.

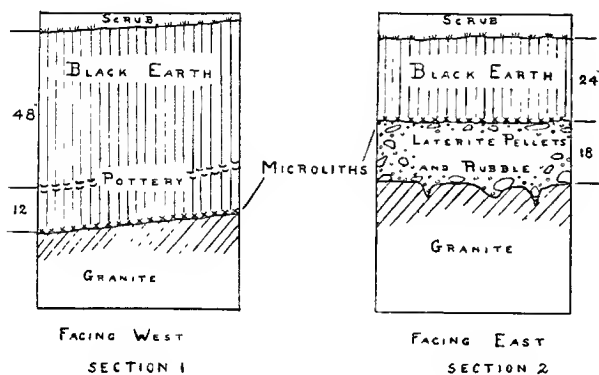


FIG. 1. SECTIONS OF QUARRY HILL, JALAHALLI

In the latter case, the implements were lying on and in the top surface of the pelley laterite, which consists of a rubble of decomposed granite fragments mixed with laterite pellets and fairly firmly cemented. There are large cracks and fissures in the parent rock, and where no laterite or rubble is present flakes and implements of quartz are often found at their bottom, in some cases forming a complete infilling.

Two sections are shown (fig. 1) whence implements were obtained *in situ*, section 1 being the westernmost, and ten feet higher than section 2, which is some twenty yards north-east of it and overlooks a stream bed. The black earth contains a pottery layer, exposed in places on the surface: in section 1 it is covered by four feet of black earth and is one foot above the implement layer. It is in no way contemporary and contains globular bowls with everted rims, projectile-shaped jars with round bottoms and flattish dishes of soup-plate size. This pottery has a red slip which is decomposing where exposed or where it lies in damp spots. There is so much pottery that I am inclined to think the hill was used as a funeral site, especially as it is inter-mixed with a fine grey ash containing burnt bones.

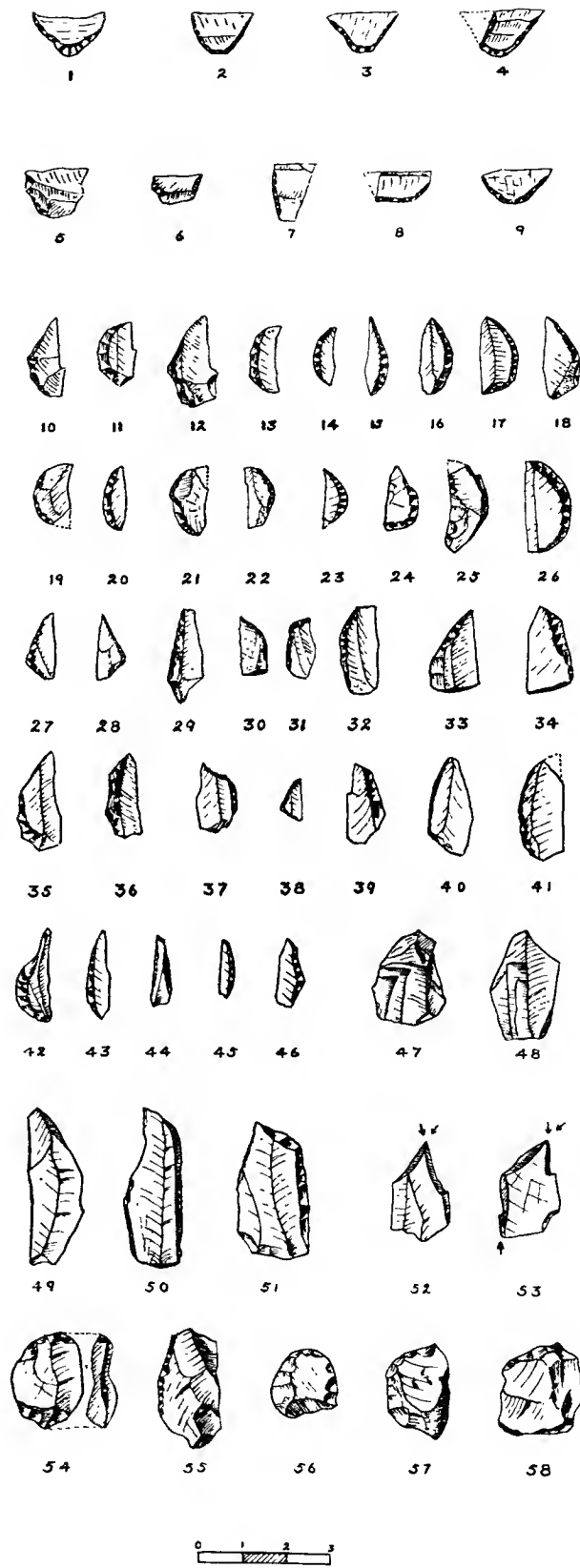


FIG. 2. MICROLITHS FROM JALAHALLI

Limited time and lack of storage space precluded collection of a representative selection of sherds, especially as I was a convalescent hospital patient at the time.

The average thickness of the implementiferous quartz layer was one inch, and from this horizon over sixty lunates and points were removed, together with a representative series of blades, scrapers and cores. It was most noticeable that cores were exceedingly few, although I dug out several hundred artifacts. With the exception of flakes, lunates and similar forms were by far the most numerous. There were also several small, curious, rod-like tools, which may have been used as drills (unless they are burin spalls). Out of 85 artifacts (not counting flakes) which were found *in situ*, 24 were lunates and 24 microliths blunted down one side or part of one side. Of microlithic tools, lunates were 38.7 per cent., compared with a percentage of 32.4 from the surface site close by on the hill nearest to the hospital. Practically none of the lunates show any sign of a bulb of percussion, this having, in the great majority of cases, been removed by chipping: nearly all have a wedge section with one face only. Maximum length was 18 mm. and minimum 9 mm. *in situ*, compared with 20 mm. and 9 mm. respectively for the surface site. Tranchets are few, four *in situ*, of which one is oblique, while there are six from the surface site, one being longer than it is broad. Maximum width is 15 mm. and minimum 10 mm., this being the oblique specimen; the surface maximum is identical, with a minimum of 8 mm., this being the tool with the greatest length along the axial line. Of tools blunted down one side or part of one side, as opposed to lunates, the maximum length is 22 mm. for surface and 20 mm. *in situ*. One of the latter is of red jasper. Some of these tools have the appearance of having had the lower portion accidentally snapped.

The following is a list of artifacts found *in situ* on Quarry Hill, showing percentages, compared with surface tools from the neighbouring site:

	Quarry Hill	Surface
Lunates . . . . .	24 (38.7%)	11 (32.4%)
Petits tranchets . . . . .	4 (6.5%)	6 (17.6%)
Microliths blunted down all or part of one side	24 (38.7%)	14 (41.2%)
Drills . . . . .	10 (16.1%)	3 (8.8%)
Rods (or burin spalls) . . . . .	3	2
Cores . . . . .	7	3
Scrapers . . . . .	5	10
Blades . . . . .	6	5
Burins . . . . .	2	3
Large points . . . . .	—	2
Large scrapers . . . . .	—	2
Flakes . . . . .	22	36
	107	97

Details of the implements shown in fig. 2 are as follows:

*Petits tranchets.* Nos. 1-4 illustrate those from Quarry Hill. No. 4 may be oblique, and the dotted line shows alternative form. The left-hand edge is a plain fracture. Nos. 5-9 are from the surface site nearby.

*Lunates.* Nos. 10-18 were *in situ*, while the surface site is represented by 19-26.

*Blunted backs.* Nos. 27-34 were *in situ*, 35-41 from the surface. Nos. 27, 28 and 38 are asymmetrical triangles.

*Drills.* Nos. 42-46 illustrate narrow tools which may be drills, the last two from the surface. No. 44 is blunted down both sides.

*Cores.* Two from Quarry Hill are shown in Nos. 47 and 48.

*Blades.* These are represented by Nos. 49-51, the last being from the surface site and blunted along the right edge. It may be, perhaps, a large blunted back.

*Burins.* Two good samples from the surface site are Nos. 52 and 53, which are the best of the series. Burins in quartz are not so apparent as in flint or agate owing to difference in flake scars.

*Scrapers.* Nos. 54 and 55 are from Quarry Hill, 56-58 from the surface site.

### Conclusion

It is interesting to note that the industry described above is, with one exception, identical in type with a large series from Bandarewella, Ceylon, which I was able to examine by the courtesy of Dr. T. T. Paterson, Curator of the University Museum of Archaeology and Ethnology at Cambridge. The exception is the burin. None were noted in the Ceylonese material. I am of the opinion that burins, as represented in the microlithic industries in India, are in the earlier series which are developed from a blade and burin industry as found round Bombay (Todd in *J.R.A.I.*, LXIX, pp. 257-272) and Madras (Cammiade and Burkitt in *Antiquity*, 1930, September). The earlier microlithic industries as found near Bombay have medium to heavy tools with them, also noted by Paterson in North India, as he told me in conversation. These heavy types do not appear to have been found in South India or Ceylon, so perhaps the burin may be a dating tool for the Eastern microlithic industries emphasized by the presence of heavier types of tools such as wedge choppers. It may be, therefore, that this Mysore series is the beginning of the latest Microlithic as no heavy tools were found, though the burin is present. It certainly antedates the Iron Age of South India, for pottery of this epoch is discovered *in situ* above it, and nowhere is it intermixed. Its relation to the short Neolithic Age of South India is undeterminable, but it is probably earlier, as large finds of the two have been made in Mysore and the two industries are in some cases together, showing direct transition.

## SHORTER NOTES

### International Congress of Anthropological and Ethnological Sciences: Third Session, Brussels—Tervuren,

28 1948

Members who attend the third meeting of the Anthropological Congress in August will wear in their buttonholes a simple and beautiful reproduction of the *phila* design,

which represents the sun and appears on some of the finest masterpieces of the woodcarver's art in the Bushongo tribe (sometimes known by the Chiluba name 'Bakuba') of the Belgian Congo (see fig. 1). The immense riches of the great Belgian collections of the art and material culture generally of Central Africa will make the approaching session a particularly memorable one for all Africanists

and all who are interested in the function of art in the working of human societies: no one who visits the Musée du Congo Belge at Tervuren can remain in doubt of the close relation between these by no means primitive arts and the life and attitudes and stable culture of the peoples who produced them.

The Second Circular (see MAN, 1947, 125, for the first), sent out by the Organizing Committee about the beginning of January, shows that our Belgian colleagues have brought great energy and imagination to the task of preparation, in the few months since the withdrawal of the invitation to Prague, and are far advanced with a programme of outstanding variety and interest.



FIG. 1. AN EXCEPTIONALLY LARGE COSMETIC BOX SHOWING THE 'PHILA' OR SUN DESIGN: BAMBALA SUB-TRIBE OF THE BUSHONGO TRIBE

(British Museum, Torday Collection, No. 1909. 5-13. 22: height 12 in.)

Her Majesty Queen Elizabeth of the Belgians has graciously consented to be Patron of the Congress, and its Honorary Presidents will be the Prime Minister and Minister of Foreign Affairs, the Minister of Public Instruction, and the Minister of Colonies. The names of the members of the Organizing Committee are as published in the First Circular: the President is Professor Edouard de Jonghe, the Secretary Professor Frans M. Olbrechts (to whom all correspondence should be addressed at the Musée du Congo Belge, Tervuren—where he has recently been appointed Director), and the Treasurer Professor Fr. Twisselmann.

The Congress will be held in Brussels and Tervuren from 15 to 23 August, and will be followed by three excursions (24 August to Ghent and Bruges; 25 August to Louvain, Liège and Namur; 26 to 28 August to museums and sites of interest to prehistorians and students of folklife). Full membership (350 Belgian francs—about £2—entitling to vote and to a copy of the Proceedings) is open to all on payment of the fee (to the Treasurer); associate membership (200 Belgian francs) is for those accompanying full members, and both may attend all meetings, discussions, receptions and excursions held during the Congress (the three subsequent excursions are not, however, included in the fee). The Royal Anthropological Institute is in consultation with H.M. Treasury with regard to allowances of foreign exchange for intending members from Great Britain.

The Congress is divided into a larger number of Sections than usual owing to the amount and variety of the work that will confront this first meeting since 1938. Certain Sections may be

split or amalgamated as and when necessary, and in general great care will be given to the 'dovetailing' of the meetings. The Sections are organized in three Groups as follows:

A. Human Palæontology; Physical Anthropology; Genetics; Methods.

B. Prehistory, Archaeology and Palæo-ethnology; Ethnology, Technology and Folklore of Europe; Ethnology of Asia; Ethnology of Africa; Ethnology of the Belgian Congo; Ethnology of the New World, with the Arctic; Ethnology of Oceania; Hamitic Problems.

C. Methods, Theories and History of Ethnology; Religion; Sociography, Sociology and Problems of Acculturation; Demography and Population Problems; Psychology; Linguistics; African Linguistics; Primitive Art; Folk Art; Technology and Material Culture; Museology.

Each member may submit up to three twenty-minute papers, of which typewritten synopses not exceeding 200 words, in English, French, German, Italian or Spanish (the official languages), should be sent in by 1 June, and the complete texts, with any illustrations, by 1 July. Members are invited to bring ethnographical films and gramophone records (some of these will be broadcast). The rapporteurs of the eight research Committees have been asked to prepare their reports in consultation with their members for submission to the Congress.

Special exhibitions are being arranged on the following subjects:

Primitive Art in general; Petroglyphs of Guadeloupe; Documents collected by the Musée National des Arts et Traditions Populaires, Paris; Art of the Belgian Congo; Iconographic Material of the African Art Study Centre; African Prehistory; Fossil Man in Belgium; Belgian Prehistory; Prints of Interest to Anthropologists and Ethnologists; Old Books dealing with Anthropology, Ethnology and Exploration; Current Anthropological and Ethnological Books and Periodicals.

Besides the business meetings, the full and detailed programme includes ample provision for social life in six receptions, a banquet, two concerts, and even two free evenings; a Ladies' Committee is being established. On Sunday, 22 August, Mass will be celebrated in the Cathedral with Bantu music and drums.

The arrangements for accommodation have been summarized on the cover of the February issue of MAN. Formal dress will not be required for any of the functions. The telegraphic address is CONGOMUSEUM, TERVUREN.

Professor Olbrechts and his colleagues of the Organizing Committee deserve our warmest congratulations and thanks for the work they have already done; and those of us who have been to Belgium recently and seen the preparations in train can testify not only to the efficiency and enthusiasm with which the Congress will be conducted, but also to the very warm welcome which British visitors will receive.

WILLIAM FAGG

## United Nations Educational, Scientific and Cultural Organization: The Social Sciences

29 The National Co-operating Body for the Social Sciences, on which the Royal Anthropological Institute is represented by the writer (besides a second member of its Council who sits for the Council of British Archaeology), met in October to discuss matters with special reference to the meeting of UNESCO in Mexico City in November. It deprecated the appointment of persons attending conferences in so far as they are chosen for official reasons; it was held to be essential that persons with relevant knowledge should be chosen by expert advice. Attention was drawn to the fact that in the 1947 British delegation to UNESCO there was no one qualified to speak for the social sciences: it was felt that the meeting in Mexico should not discuss

the subject matter of the social sciences and should avoid the opening of purely speculative and highly controversial debates such as one suggested on 'Tensions Crucial to Peace.' In the matter of international law it was felt that the Organization would be well advised to give help to scholars, rather than to undertake to organize study itself. Aims for UNESCO should include means to increase the supply of paper for much-needed books and journals, to promote exchange of material including books, journals and statistics, to help scholars of different countries to meet under conditions of freedom of discussion, to arrange for

translations of books and papers, to help scholars and societies who are carrying out definite and precise schemes of research, and to urge upon governments the need for more publication of statistical and other information in forms accessible to scholars of other countries. The Committee pointed out that, whereas in the UNESCO Budget the natural sciences were allocated \$302,500, the amount for the social sciences was \$18,000. (It is, perhaps, relevant to add that the natural sciences have for years had an International Council of Scientific Unions, but no parallel body has been even projected for the social sciences.) H. J. FLEURE

## REVIEWS

### ASIA

**The Vertical Man.** By W. G. Archer. Allen and Unwin, 1947. Pp. 122, 49 plates. Price 15s.

**30** *The Vertical Man*, like Sam Weller, is an original, and its creator has every reason to be proud of it. It is primarily a study of primitive Indian sculpture, but so carefully has Mr. Archer related the sculpture to the cultural background that his book must rank among the most valuable recent contributions to Indian social anthropology.

Bir Kuar is a cattle god of the Ahirs of western Bihar and his worship centres on his primary function of actively aiding the Ahirs and preserving them from harm. In the majority of Ahir villages his main task is to cause she-buffaloes to come on heat; and for this purpose bargains are made and special offerings are given. But besides this fertilizing function, Bir Kuar is also believed to exercise a general influence on the herds. Consequently, although his active help is only sought in accelerating pregnancies, sickness in a herd and attack by tiger are often thought to be due to his displeasure. An elaborate mythology has grown up around him, and Mr. Archer records and analyses it. He also describes in detail the ritual of worship. The most remarkable thing about this worship is the erection in wood and stone of images of the god and his companions.

Mr. Archer gives no fewer than forty-nine excellent full-page pictures of these images, collected from villages over a wide area. He describes the technique of their manufacture and studies their significance as examples of what he calls 'vital geometry.'

This is a most interesting essay in the relations of art and religion and of art and economics and will both set a new standard and supply a new model for the study of primitive art in India.

VERRIER ELWIN

**The Aboriginal Problem in the Central Provinces and Berar.**

By W. V. Grigson. Nagpur, 1944. Pp. xii, 510, with 23 illustrations and a map

**31** This important book is the result of Mr. (now Sir Wilfred) Grigson's work as Aboriginal Tribes Enquiry Officer from 1940 to 1942, a post created by the Provincial Government, which 'had had under consideration the measures necessary to improve the condition of the aboriginal tribes in the Province and in the Partially Excluded Areas'; and the thoroughness with which he accomplished his task is all the more remarkable, as service exigencies prevented him from spending his whole time on the enquiry. The spirit in which he worked can be seen by his quoting, on the title page of his book, the last words of Cecil Rhodes: 'So little done: so much to do.'

He is very much aware of the factors which contribute most to the impending doom of the tribal cultures of India: the restrictions imposed by the government on the traditional occupations of the aboriginals (shifting cultivation, hunting and the use of forest products); the alienation of land to non-aboriginals; and the renunciation of the old customs and recreations under compulsion from the government, or as the result of Hindu or mission propaganda.

There are two schools of thought about the best way of helping the aboriginal in India to hold his own: that which upholds isolation, and that which upholds assimilation. It is quite obvious from Sir Wilfred's comments and recommendations that he does not consider a policy of isolation a practical one, but believes with

J. H. Hutton that 'it is not beyond the power of India's primitive tribes, if properly treated, to stand on their own feet, control their own affairs, and contribute their own quota of original and individual genius to the national life of India.'

The first and perhaps most important section of the book deals with the loss of aboriginal land and with debt. In chapter III, on the loss of tenancy and *ryotwari* land, it is stated that 'in some way, this branch of the enquiry is the key to the whole position of the aboriginal of the province. As he is steadily losing the land that he holds in proprietary and tenancy right, while at the same time his numbers are increasing, he descends through the stage of a sub-tenant to that of a farm servant—until in the end, even this standby disappears, and he becomes a casual labourer and sinks to the status of the menial castes.' Sir Wilfred examines, district by district and with numerous examples, the way in which aboriginals are gradually becoming landless; and, considering legislation to be an urgent necessity, he makes comprehensive recommendations as to its form, not forgetting that although the form of legislation presents no great difficulty, the practical problem will be to enforce it.

The aboriginal is an easy prey to the almost always dishonest moneylender, and Sir Wilfred points out, and proves by many extracts from district reports, that loss of land is closely allied to the question of debt, and works with it in a vicious circle. The Central Provinces Moneylenders Act and the Protection of Debtors Act do not, in his opinion, adequately protect aboriginal debtors, and again he recommends immediate special legislation.

The next section of the book is headed 'Nation-Building other than Education' and shows that the author does not believe that it is sufficient to protect the aboriginal from land-alienation, from debt and from exploiters, and then leave him to carry on as his ancestors have always done; but that he should be encouraged to make use of the benefits of modern science in his agriculture, his cattle-rearing, his public-health services and medical relief. But he shows quite clearly in his recommendations that he realizes that the traditional way of life cannot be changed in a moment, and that the aboriginal may need a great deal of convincing that the 'civilized' way of life is more desirable than his own. He advocates allowing shifting cultivation, which 'does no harm, but keeps contented the most primitive tribes of the province. It should on no account be stopped, and district officers should be deprived of the power to stop it.' He also realizes that while excessive drunkenness is to be discouraged, the aboriginal must have drink freely for social and religious occasions.

The last section is concerned with Political and General Education, and includes a chapter on Law and Order, of which the most satisfactory recommendation is for 'a detailed investigation of tribal customary law on anthropological lines by trained investigators, spread over a number of years, for the guidance of judges and lawyers.'

In his recommendations Sir Wilfred states what he considers the aims of aboriginal education should be—(i) 'to conserve and develop tribal culture, religion and institutions; (ii) to equip the aboriginal to defend himself against those elements of civilization that threaten to destroy or degrade him, and to adapt himself to and make his own contribution to the modern world; and (iii) to

improve his economic condition—which, in a way, summarizes his whole approach to the problem he set out to investigate.

In conclusion, he states that if the aborigines are to be given the chance they deserve, the lack of touch between them and the government departments must be overcome; and that there should be continuity of office in all districts in all departments of government.

There is a most useful summary of all his recommendations, with references to the relevant paragraphs; an adequate bibliography, some of which, at least of the general section, should be read as an introduction to this book; a large number of statistics from the unpublished 1941 census; and a number of useful appendices, containing the many questionnaires sent to the district officers, the answers to which provided material for a great part of the book. There is also a map contained in a pocket on the back cover, which can therefore be conveniently used when needed; and the illustrations are excellent.

This book should be read by more than those with an expert knowledge of India, and it would have been helpful if the author had explained some of the words which are unfamiliar to the layman. Finally the hope may be expressed that more use will be made of its recommendations by the indigenous government of India than could have been by an alien one. Indeed, the crucial test of purely Indian administration will be found in its treatment of the aboriginal. As Verrier Elwin says of the aborigines: 'These are the ancient people, with moral claims and rights thousands of years old. They were here first; they should come first in our regard.'

D. WHEATLEY

**Les Castes.** By A. M. Hocart, translated from the English manuscript by E. J. Lévy and J. Auboyer. *Annales du Musée Guimet*, Vol. LIV. Paris, 1938

32 A. M. Hocart's volume on caste, with a brief introduction by Marcel Mauss, appeared in France in 1938 just after his untimely death. With *Kingship* and *Kings and Councillors* it formed a sort of trilogy, and combined with them to attribute the social institutions of Indonesia and Oceania to diffusion from the mainland of Asia and to point out their affinities to those of Rome and Hellas, of Egypt and the ancient Hebrews. The main purpose of the volume on caste is to demonstrate that the caste system of India has a ritual origin ultimately derived from the ritual needs of a dual social system, which had been split again into four main divisions associated for ceremonial purposes with the four main points of the compass and identified in Hinduism with the four *varna* of ancient tradition, Brahman, Kshatriya, Vaishya and Sudra, and associated with the symbolic colours white, red, yellow and black. The occupations of different castes, according to Hocart, are derived from creative ritual: the potter, for instance, starts as a priest who makes ritual clay models to represent objects to which life has been imparted; ultimately the priest's activities become restricted to the modelling of clay, and he then degenerates into a mere craftsman. Hocart insists that whereas a ritual and mystical process may easily degenerate into a purely utilitarian one, the utilitarian can never be sublimated to the mystical and ritual; thus the fact that an Indian carpenter worships the tools of his craft is proof that the craft itself had a ritual origin. This is an extreme position. No doubt it is possible to exaggerate the importance of the practical or economic motive, but it is at least equally wrong to regard it as completely imperoperative in the motivation and in the initiation of human activities. Again, while Hocart's view that the south Indian division into Castes of the Right Hand and of the Left reflects a division of the population into two groups with matrilineal and patrilineal descent respectively has much to commend it, it seems unnecessary, if not positively contradictory, to insist that this same division points to a dual system in which society was divided into two moieties, each compelled by custom to choose its mate from the other.

There is, then, much in the conclusions reached in *Les Castes* with which it is difficult to agree. At the same time, the volume as a whole is a serious and important contribution to the study of caste, and, even if the views expressed seem often to be pushed too far, one can have nothing but respect for the scholarship displayed, for the wide

range of comparative custom drawn upon and cited, and for the originality and ingenuity of the general approach. The importance of Hocart's contribution to ethnological theory has rarely been appreciated at its full value in this country, and it is perhaps significant that he could not find a publisher for his book on caste without going abroad. It would be an advantage to English anthropology if his last work could be republished in the language in which it was written.

J. H. HUTTON

**The Naked Nagas.** By Christoph von Fürer-Haimendorf. Calcutta (Thacker, Spink), 1946. Pp. xiv, 216, with 53 photographs. Price Rs. 12

33 Dr. Christoph von Fürer-Haimendorf, now Professor of Anthropology at Osmania University, originally published *The Naked Nagas* in London in 1939. This second edition published in India does not differ greatly from the first. Some additional introductory matter has been added referring briefly to some of the changes brought about by the war; some changes have been made in the illustrations and their number has been increased by a dozen or so. The author's photography is always brilliant, but one regrets the omission of some of the photographs which appeared in the first edition, and the reproduction generally in this edition is not so good; this, however, is hardly to be wondered at, and if there is some falling-off in quality it is made up for by an increase in quantity.

This account of the Naked Nagas is rather a travel book than a detailed anthropological study, yet the author gets a great deal of anthropological observation into this account of his sojourn in the Naga Hills. He gives an account of a short tour in the Angami country followed by some months of residence among the Konyak Nagas of Wakching, a residence broken by an expedition with the D.C. of the Naga Hills and an armed escort to recover some persons sold as slaves for sacrifice to a distant village in the unadministered and only partially explored area between Assam and Burma. He gives an account of this expedition, and of his return to the Wakching area, which was observed by the villages he stayed in as the return of a successful headhunter. His account of these ceremonies, and of the daily life and activities of the Konyak Nagas which he shared, is vivid, full of acute and sympathetic observation; indeed, his sympathy betrays him at times into sentiment. His descriptions are full of colour and extremely well written, though marred for some British readers at least by an excessive partiality for the use of the historic present.

One or two mistakes of fact there are. It is hardly just to General Woodthorpe's brilliant water-colour portraits painted in the seventies and eighties, or to Mrs. Milward's admirable portrait heads modelled during the past decade (not to mention Miss Aletta Lewis), to declare that no artist has ever visited the Naga Hills. The annual rainfall in the wettest part of the Angami country is probably only about half the alleged 250 inches. The story of the message sent out of besieged Kohima in 1879 in a woman's hair knot is true enough, but the message was not delivered at Samguring till after the siege had been raised as the result of a different message sent to Manipur, while the fire-arrows which lighted the thatched roofs were not thrown by hand but shot from muskets.

The author's photographs cannot be too highly praised and the volume as a whole raises a lively anticipation of a detailed monograph on Konyak society. Dr. von Fürer-Haimendorf is an anthropologist with a sense of humour, with sympathy, with insight and with powers of observation of no mean quality. J. H. HUTTON

**Bibliography of Indonesian Peoples and Cultures.** By Raymond Kennedy. *Yale Anthropol. Studies*, Vol. 4 (phototype). New Haven and O.U.P., 1945. Pp. 212. Price \$2.50: U.K. 16s. 6d.

34 For specialists in the Indonesian field who are not themselves expert in the Dutch language this will prove a valuable if not indispensable compilation. For all that, the author's claims to comprehensiveness are exaggerated. Kennedy states his field of interest as 'anthropology and sociology, including ethnography, archaeology, linguistics and studies of acculturation' and rashly asserts that 'it is quite certain that the bibliography here published represents a close approximation to complete coverage of all extant books and periodical articles concerning peoples and cultures of Indonesia.'



Indonesia, incidentally, is here taken to comprise the whole of Netherlands India, including Dutch New Guinea, and the whole of Borneo, including British territory. I am only qualified to check Kennedy's claim to comprehensiveness for one small part of this large region, namely Sarawak, and it may be useful if I point out some of the gaps in this section of the bibliography.

(a) The *Sarawak Gazette*, a semi-official monthly periodical which has been running for seventy years or so, is not quoted as a source reference at all; (b) the last two numbers of the *Sarawak Museum Journal*, 1935 and 1937, are not indexed, nor is the 1940 volume of the *Journal of the Royal Asiatic Society (Straits Branch)* which contains articles originally intended for the *Sarawak Museum Journal*; (c) S. H. Ray's very erudite *Bibliography of the Borneo Languages* which forms part of the monograph *Languages of Borneo* (*Sarawak Museum Journal*, 1913; Kennedy, p. 90) is not mentioned as a separate head and has not been used in the new compilation; (d) there are a number of valuable entries in the bibliography at the end of Ling Roth's *The Natives of Sarawak and British North Borneo* (1896; Kennedy, p. 90) which have not been requoted, including such an 'obvious' reference as 'McDougall, F. F., Bishop of Labuan, "On the Wild Tribes of the N.W. Coast of Borneo," *Trans. Ethnol. Soc.*, II, 1863, p. 24.'

It is clear therefore that this new work, despite its value, must not be considered comprehensive even within its defined field.

For some workers the political boundaries of Kennedy's Indonesia will prove tiresome. Kennedy himself notes that Heine-Geldern is expected to publish shortly a *Select Bibliography of South-East Asia*, and for some purposes this is likely to be an important additional source. Kennedy's arrangement is by geographical areas—e.g. Sumatra, Borneo, Celebes—subdivided into 'peoples' or 'tribal groups.' A key list (pp. 7-11) shows how the better known tribes have been categorized for grouping purposes. This is very necessary, as Kennedy's categories do not always coincide with those of older authorities. For example, in Borneo, the Dusun, Kelabit, Milanau and Murut are all classed as Klamantan, a blanket term originally devised by Hose for quite a different selection of tribes. Under each head the Dutch material is listed separately from that in other languages, and for English readers this is a genuine advantage. On the other hand, the system of multiple entry employed is often confusing and not at all consistent. As a case in point, Hose and McDougall's *Pagan Tribes of Borneo* justifiably appears separately under six Borneo sub-heads (namely, General, Bahau, Land Dyak, Klamantan, Iban, Punan), yet Crawford's equally 'classical' *Descriptive Dictionary of the Indian Islands and Adjacent Countries* does not appear in the Borneo section at all, but only at the beginning of the book under 'Indonesia, general.'

These, however, are merely points of detail in what is without question a very valuable piece of work. E. R. LEACH

**Folk Songs of Chhattisgarh.** By Verrier Elwin. O.U.P., 1946. Pp. lxi, 466. **Folk Songs of the Maikal Hills.** By Verrier Elwin and Shamrao Hivale. O.U.P., 1944. Pp. xxix, 410. Both published for "Man in India," price Rs. 15 each

**35** *Folk Songs of Chhattisgarh* and its companion volume *Folk Songs of the Maikal Hills* by Verrier Elwin and his Indian colleague Shamrao Hivale should not be missed by any lover of poetry and anthropology. These songs form the most important evidence obtainable of the aboriginal tribes, for they explain in fullest detail their lives, customs and thoughts, and are 'authentic and unshakable witnesses to ethnological fact' (see *Chhattisgarh*, p. 14): take, for example, the complete description of the marriage ceremony on pp. 175-205 of *Chhattisgarh*. To have collected and translated these folk songs and arranged them under headings with notes and comments is an amazing piece of work. Great charm is added to the collection of poems by quotations from and comparisons with poetry of other lands. It is heart-breaking to learn of the decline of Indian folk song at this moment of appreciation. Our gratitude is due all the more to Elwin and Hivale for their devotion in making a record of song and dance before they disappear.

*Folk Songs of Chhattisgarh* opens with many pages of critical and scholarly comment by W. G. Archer. This forms a work of absorbing interest in itself and gives so complete a summary of the book and its purpose that there is little left to say. The best poems

and the most poignant are those which deal with sex, courtship, love and marriage; in these the whole world is akin. Some of the songs are wide in thought because the singers are so closely in touch with nature, in others they are narrowed down because no outside interest touches the tribespeople on their family life. They sing of what is nearest and most important to themselves and use the imagery of familiar things; the parrot and the maina, the 'flame-of-the-forest' tree, the tamarind and the mahua flowers—these make the setting of life in the jungle.

In 1938 I went on two occasions with Elwin and Hivale across the Maikal Hills to visit lonely villages and to stay at the Baiga village of Bohi for the purpose of study. Few white women have had the good fortune to cross this remote and isolated region, the home of folklore and song uncontaminated by any outside influence for countless ages. Our journey was unforgettable, through miles of sal forest, the young saplings garlanded with rich green, the tall full-grown trees reaching up to the sky. Game abounded; immense neel crossed our path, guthrie and distant groups of peacock tempted us to hunt for our larder. Part of the journey was made on stretchers carried by Gond bearers. We climbed steep ghats and dropped down into little plains threaded with rushing streams peculiar to Chhattisgarh. The views were magnificent, a distant lake, a stretch of green bordered with dense forest and blue hills melting into the horizon. As we passed the little village of Pandripani, the people were both curious and terrified and hid away from us. When we came to the wildest and most dangerous part of our journey through a dark and eerie jungle our Gond bearers dropped us, shouting 'Tiger, tiger!' and began to run back. Calling on all their gods, Verrier Elwin managed to hearten them. When we arrived at last at Bohi it was interesting to see how he tackled the villagers and gained their confidence. There is no one more competent than he is to translate for us the poetry and language of the aboriginal, for he has penetrated deeply into the very heart of the people.

These songs are so full of music and poetry even in translation; what must their beauty be like with the rhythm and colour of words of the tribal language! Note the bird-song refrain in *Chhattisgarh*, p. 139: *Kuhakale Kali Koeliya Kuhakale*.

MARGUERITE MILWARD

**The Peoples of Malaysia.** By Fay-Cooper Cole. New York, 1945. Pp. xii, 354 and plates. U.K. price 22s.

**36** 'Malaysia' here means the Malay Peninsula, the Andamans, Netherlands India (excluding New Guinea), Borneo and the Philippines; its 'peoples' exclude such recent but politically significant elements as the Europeans, the Chinese and the Indians; there is little description of local topography, and nowhere any mention of the size or relative densities of the populations described. The interest is thus narrowly ethnological, with a stress upon the reconstruction of hypothetical history and upon the definition of allegedly distinct Malay and Proto-Malay culture patterns. A useful historical introduction (chapters I-III) is followed by a series of potted ethnographic accounts of 'type groups' from different parts of the area (chapters IV-XII). Of these, the descriptions of Philippine peoples, which are largely précis from Professor Cole's own monographs, are not only the most detailed but also, I fancy, the most reliable. The final chapter and appendices are mainly devoted to not very convincing trait-analysis. Notes and bibliography provide a useful guide to further reading but make no claim to comprehensiveness.

Professor Cole is concerned to demonstrate a general uniformity in the Malaysian pattern and deviant features are largely glossed over. Some of these omissions would seem to be crucial to the main thesis of the book. For example, Bornean sago-cultivation hardly fits into the Malaysian scheme as here described, yet the existence of such a technique is not even mentioned. The chapters on Netherlands India cover material which, in original, is only available in the Dutch language, but for the British territories the documentation seems out of date. Noone's monograph on the Ple-Teniar Senoi (1936) calls for substantial adjustment of the chapter on the Sakai. For British Borneo, books and papers by Rutter (1929), Pollard (1933) and Banks (1935, 1937, 1940) have led to considerable reassessment of the earlier work of Hose and McDougall (1912) and

Evans (1922), whom, however, Professor Cole here appears to treat as the final authorities. Local experts would, I feel, be puzzled by the description of the Kayan as 'the most powerful of all the pagan groups' in all Borneo, or of the Murut as 'the wet-land-cultivators of North Borneo.' Oddly enough, Professor Cole expresses scepticism about the existence of the nomadic Punan, whom he appears to regard as a product of Hose's imagination. Scientific doubts are welcome, but I can see no justification for this one; indeed, the existence, if not the precise numbers, of these people was fully verified in the 1940 Sarawak Census.

Scepticism is not extended to ethnographic accounts of peoples outside Malaysia, and Professor Cole seems willing to accept some very questionable theorizing from writers on the Assam-Burma field. The general question of how far trait-dispersion can legitimately be interpreted as evidence for the historical migration of whole peoples is, of course, a large and debatable issue. In the present work Professor Cole states his hypotheses fairly enough, but does not enquire too deeply into the evidential value of his sources.

E. R. LEACH

**La Sibérie.** By Kai Donner. Translation from the Finnish by Léon Froman. Paris (Gallimard), 1946. Pp. 245, plates and maps

**37** Kai Donner (1889-1935), like his celebrated father Otto Donner, was a leading authority on the Uralian language and, like his still more celebrated compatriot, the linguist and ethnologist M. A. Castrén, a courageous explorer, who shortened his life through hardships endured among the Siberian tribes he had chosen to study. *Siperia* (Helsinki, 1932), from which this French version was made, contains only a fraction of the material which the author, in the course of arduous expeditions, had collected on Samoyed anthropology and linguistics, but presents it in a systematic and readable survey. The scope of the book is considerable, yet its title seems too large, because Donner's researches were limited to the past and present of the West Siberian plain up to the 'frontier' of Uralian and Altaic, which, he seems to think, is traced by the incidence of *tanga* (cipher) patterns radiating from a western (Roman) and an eastern (Chinese) culture focus. Donner studies the geological history and palaeontological finds (he himself discovered remains of the hairy rhinoceros at Tonisk), then the lie and landscape, the tribes and languages of the Ob-Irtysh region. Palæolithic Man of the familiar Mousterian type appears to have left traces of himself near Krasnoyarsk, but these are probably earlier than Aspelin's Uralo-Altaic archaeology, and this Donner decisively rejects in favour of an hypothesis which derives the Uralians from Europe. Nor could his sanguine temperament countenance the Uralo-Altaic theory in its linguistic aspect, and this healthy heresy caused him to regard the Samoyeds, like their Ugrian congeners, the Ostyaks and Voguls, as ancient (Bronze Age) immigrants into those parts, where they have since maintained themselves as hunters, fishers and reindeer-breeding nomads. Donner's intense interest in the Samoyeds led him to advance his researches into the Sayan

mountains, where in 1914 he found the last representatives of the fifth group of Samoyedic, the Kamasses. These, with the Koibals, Karagasses, Mators and Soyots, are now turanianized. Turanians too occupy the steppes and piedmont of West Siberia and are commonly known there as Tartars and associated with such place names as Baraba, Kacha (the translator has overlooked the Finnish genitive suffix *-ni* and mistakenly writes 'Baraban' and 'Catchan'), Tobolsk, Chulym, Kuznetsk, Abakan and Altai. The other West Siberian peoples, none of whom Donner regards as 'aboriginal,' are the Altaic Tungus and Yakuts in the east, the Uralian Zyryans (Komi-mians) in the west, and the isolated Palæo-asiatic Yenisei-Ostyaks (Kets) in the east-centre. The last are mentioned in connexion with the Yenisei-Ostyak-Sinitic hypothesis, which affiliates Yenisei-Ostyak to the Chinese-type languages. If this hypothesis is valid, he suggests, anthropometry comes to its aid with a lower cephalic index for the Yenisei-Ostyaks (83.14), which is nearer the Sino-Tibetan average of 80 than the extreme brachycephaly characteristic of North Siberia. To the mainly anthropological chapters Donner adds four on historical record, extending from pre-Christian Chinese annals and mediæval Arabic accounts, through the sanguinary story of the Russian conquest (the Yenisei-Ostyak word *lutse*, like the Chukcha *kačak*, means both 'Russian' and 'devil'), down to recent demographic statistics. The anthropologist will consult chapters III (anthropometry), X (social and legal custom), XI (numeration) and XII, which discusses the millennial vitality of shamanism and the records of Siberian man-eating.

W. K. MATTHEWS

**The Chrysanthemum and the Sword.** By Ruth Benedict. Cambridge, Mass. (Riverside Press), 1946. Pp. 324

**38** A post in the Office of War Information caused Dr. Benedict to renew her acquaintance with the Japanese, and in this book she sets out to interpret them to the American public. One of the chief differences between Japanese and Americans is that while among the latter the chief sanction for moral conduct is conscience, in Japan such a thing is unknown. The Japanese spend their lives under the shadow of a fearfully strong sense of shame: what people do or might think of them is all-important. The Japanese owe two sets of obligations: the first, to the Emperor, to parents and to teachers, can never be repaid, though everyone must keep on trying; the second is to all other persons and must be repaid in full. This makes a Japanese reluctant to give or receive even small favours, and to save a man's life may create a mutual relationship which is intolerable to both parties. Prisoners of war, having lost their lives as Japanese, also lost all sense of shame or obligation to their fellow-countrymen and worked cheerfully for their captors. In the last chapter of a very readable book Dr. Benedict considers the future. She thinks that the majority of Japanese, convinced that war does not pay, are ready to try peace, but the demobilized soldiers, no longer held in honour, are a difficulty and may be a danger.

RAGLAN

## GENERAL

**Ancient Anodynes.** By E. S. Ellis. London (Heinemann), 1946. Pp. 187. Price 21s.

**39** Mr. Penniman rightly draws attention in his foreword to the enormous amount of work entailed in collecting the material for this book. The index is excellent and an unusual feature is that each of the ten chapters has its own set of references, these amounting to 476 in all. A large percentage of the authorities quoted are not available to the ordinary reader, whether his approach to the subject is from an anthropological or medical angle, and the book should therefore become one of unequalled value to the student. The author says in the opening words of his preface that it is not to be expected that this book will have much to interest the medical profession generally, as it does not confine itself to surgical anaesthesia. With this one may with some confidence disagree, for no one who has made any study of the physiology of medicine could fail to find countless items of interest.

In chapter III, 'Psychological Anaesthesia,' he refers to the passing

of needles and skewers into various parts of the body while the performers were in a state of 'hypnotic passion' and showed no signs that they felt any pain. The reviewer had opportunities for the close study of this form of religious fervour and can fully confirm the astonishing absence of any sign of pain. The effect of drums on these occasions is dealt with by Lord Curzon in his *Tales of Travel* ('The Drums of Karwan'). Even Europeans may feel the hypnotic effect of drums, for at one performance a British officer remarked, after drums had been reverberating for an hour, that he himself felt inclined to follow the fakirs, leap into the arena and drive a skewer through his cheeks. In this same chapter Dr. Ellis quotes a 'Holy One' who refused to have an anaesthetic for a painful operation. His tale can be confirmed from India, where a religious mendicant showed no sign of pain where pain—severe pain—would be expected, saying afterwards, 'I was thinking of God; and while I think of God, why should I feel pain?'

Among drugs, stress is rightly laid on the various preparations of





**A CHIEF'S STOOL FROM THE EASTERN CONGO**

*By courtesy of the Trustees of the British Museum*

# A MASTER SCULPTOR OF THE EASTERN CONGO★

by

WILLIAM FAGG

*Department of Ethnography, British Museum*

42 The carving reproduced in Plate D and in fig. 1 has been in the British Museum since 1905 (reg. no. 1905. 6-13. 1), when it was purchased for what would today be thought a trifling sum from Mr. Rowland Ward, of Piccadilly, London. It has long been recognized as a masterpiece, but the occasion for publishing a new photograph of it at this time is that it may now be seen for the first time without the serious impediment of a large collection of trade-bead ornaments which greatly obscured the carving and proportions (see, for example, Sadler and

of the Congo tribes, and since they are identical with the typical South African variety (of rather modern date), we may assume with fair certainty that they were added after original collection. It is in any case hard to believe that any carver of such outstanding ability would have disfigured his work with accoutrements of this kind; and a misplaced European sense of decency is more likely to have been responsible. All the beads have therefore now been removed (and carefully docketed, in case their replacement should ever seem desirable).



FIG. 1. THREE VIEWS OF THE BRITISH MUSEUM SPECIMEN SHOWN IN PLATE D (HEIGHT: 21 INCHES)

others, *The Arts of West Africa*, 1935, Plate X). These beads are of the colours, and arranged in the patterns, typical of South African work, whereas quite different types of beads were used in the Eastern Congo in the comparatively rare cases in which carvings were enhanced, always sparingly, with this form of ornamentation. The two rectangular aprons, with geometrical designs in dark and light blue, white and pink beads, which were arranged at the waist of the figure, are especially alien to the artistic conceptions

★ *With Plate D and a text figure*

This chief's stool, carved in a very light wood and painted black, is (I believe) the only example in Great Britain of the work of the anonymous sculptor of Buli who was one of the very greatest masters of African art. Photographs of all his known works have been collected and published by Professor Frans M. Olbrechts, the new Director of the Musée du Congo Belge at Tervuren, in his recent work, *Plastiek van Kongo* (Brussels, 1947). The French edition, now in preparation, will be reviewed at length in MAN when it appears. It may be said at once that

this volume, which embodies much of the results of Olbrechts' work at Ghent on the iconographic analysis of the art styles of the Congo tribes, is without doubt the most important scientific study yet published in the specific field of African art. Every good museum curator knows in his heart that Olbrechts' method is the right one for the study and identification of Negro art objects, and many have applied it on a modest scale, in isolated articles or in the normal course of museum work, in the past century; but none has previously devoted the necessary time, energy and insight to elevating the method into a complete system of scientific study, and to publishing the results in a form which will set an extremely high standard for other workers in this and similar fields. The book is finely and fully illustrated and the plates, with their easily intelligible captions in Flemish, are in themselves of far greater value to the student than all the volumes of reproductions of African sculpture published, mainly on the Continent, in the last forty years—collections of plates which are seldom particularly well chosen or usefully discussed and are redeemed only by the excellence of the individual objects illustrated. In *Plastiek van Kongo* is also to be found a comprehensive list, with photographs, of the extant royal portrait statues of the Bushongo tribe, of which three of the earliest and finest are in the British Museum. Indeed, the encyclopædic character of the work makes it almost as valuable for being the best reference book on Congo art as it is for its methodological implications. It is to be hoped

that the other main regions of African art will receive equally instructive exposition from Belgian and other scholars (and there is no one better qualified than Olbrechts and his pupils to instruct us on the sculpture of the Ivory Coast).

The photographs which accompany the present note are intended to form a supplement to that section of the work which deals with the 'long-faced style of Buli' (as Olbrechts names it, after the Baluba village on the Lualaba River where the only two documented examples were collected); only one view of the British Museum specimen, with its beads, was available when the book was written, and these improved photographs will permit detailed comparison with, in particular, the Stuttgart and Darmstadt specimens, of which Olbrechts gives several views. They may assist students to make up their minds on the question whether all these ten masterpieces are from one hand (as the title of this note assumes) or from several: Olbrechts, with commendable restraint, leaves the question open, for it would be hard to prove scientifically more than that they are from a single school. But most people who note the extreme and unwavering sensitivity of all twelve of these beautiful faces (two of the stools being each supported on a pair of figures) will doubt whether two such supreme artists, with identical subject matter and technique, would be found in a single village, even though artistic tradition is (or was) so much more powerful a force in African life than in Europe.

## THE MILDENHALL TREASURE SOME TECHNICAL PROBLEMS: PART II\*

by

HERBERT MARYON

**43** We may now compare the Mildenhall works with another work, quite evidently produced by casting, the silver situla of the third century B.C., decorated with figures representing the four seasons, found at Vienne, France (British Museum). We shall find that the background of the situla is quite level; the back of the work, inside the bowl, is level also, with no hollows behind the figures, and, indeed, no trace of the relief in front shows anywhere on the back, in spite of the fact that the metal is thinner than that in the Mildenhall examples. The thickness of the background to the figures is only about 0.035 inch: a fine example of casting. Though a small amount of work was done with the tracer, most of the surface was left 'as cast,' i.e. the surface of the figures and of the background was not chased after casting.

It is not necessary in this place to describe the process of *repoussé* work. Strictly, that term refers to work done from

\* With five text figures. For Part I see MAN, 1948, 25, together with Plate C.

the back of the metal, that on the front being called 'modelling and chasing,' through the term *repoussé* is often employed to cover work done on both front and back. We may, however, touch upon a few points about this work which are pertinent to our enquiry. The metal employed for *repoussé* is thin enough to allow raised patterns to be driven up on the front surface of the metal by blows from punches, hammers and other tools on the underside. These blows, from smooth and generally rounded tools, leave smooth, slightly polished and easily recognizable marks where they have fallen, and as the work proceeds a similar general shape to that of the front of the work may be developed, in reverse, on the back. If the metal should be thick, however, very little useful work can be done from the back.

There is another variety of *repoussé* work which is very generally practised, when, for example, it is desired to decorate a tray with a pattern in low relief, not high enough to endanger the safety of glasses or other light objects

standing upon it, but not flat like an engraved plate. For such work it is usual to fasten the metal to a wooden backing by nails driven into the wood round the circumference of the metal sheet, their tops being tapped over the metal to hold it down. The pattern is then outlined with the tracer and the background hammered down with punches.

Now let us consider the line produced by a tracer. When the metal is resting upon some yielding support, such as a board or a pitch block, the tracer produces a groove with a slight ridge driven up on each side (fig. 1a) and a definite ridge upon the underside of the work. If, on the other hand, the metal is resting upon an unyielding support, such as an anvil, it will leave a line like fig. 1b and all that will be visible on the back of the metal will be a slightly bruised

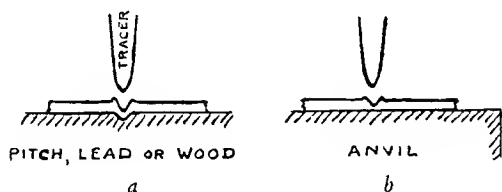


FIG. 1

'trace' (if the metal is really thick there will be no mark at all). The outline completed, it is usual next to drive down the background with punches or with matt tools. The punches used may be fairly flat at the end and have their corners rounded off a little; or if it is desired to produce a textured or 'matt' background, then a specially shaped or a matt tool is employed.

Let us now consider what happens when a background is hammered down. If the work is resting upon a pitch block, the depression of the ground disturbs the pattern very little: it is held fairly firmly by the pitch adhering to its back, so remains almost flat, while the background is lowered by the blows from the punch. But if the work is resting upon a wood block or upon an anvil, the result is different. The blows drive the background downwards, but they meet a comparatively unyielding resistance from the board or anvil. This is shown diagrammatically in fig. 2 below. The metal composing the background will be driven downwards, compressed and severely bruised. It will be driven also to try to escape to left and right, and will be

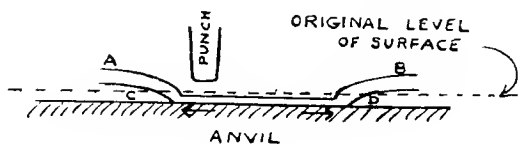


FIG. 2

pushed a little in the directions shown by the arrows. The effect of this lateral pressure will be that the metal at A and B will tend to rise above its original level (shown by the dotted line). It will become slightly rounded in front, and hollowed at the back at C and D; and the underside of the background will show severe bruising. In striking a medal or coin, the pressure of the blow from the press forces the metal into every part of the die. The high relief on a

medal is an excellent illustration of the extent to which metal will 'flow' under pressure.

Now let us look again at the Neptune dish (Plate C, a). First we notice that the background is very far from being flat. If a modeller had been at work on that design he would certainly have got his background flatter. It is impossible to believe that a modeller would have left his background in so poor a condition. Again, if the work had been cast, we should not have found that hollow on the back of the dish under the figures: that surface also would have been flat. It may be suggested that this hollowed effect is due to the chasing to which the figures have been subjected after casting. But with metal of this thickness so great a hollow would not have been produced if the work, having been cast, had received only the usual amount of chasing that a cast work might require. Any direct *repoussé* work on the back in order to increase the relief would have left traces. We should find them also on the back of the platters (*Handbook*, Nos. 2 and 3), but none of these surfaces shows evidence of any such work.

If these works were neither cast nor produced by *repoussé* work, were they carved? To carve the designs upon works such as these it would be necessary to support the work firmly—probably upon a pitch block, possibly upon an anvil. The removal of part at least of the background with chisels would be first undertaken. The carving of the figures and other ornament would follow. Some small amount of chasing and scraping would accompany the carving, and the work would proceed until completion. Upon removing the dish from its pitch bedding, or lifting it from the anvil, one would find very little evidence upon the underside of the work done upon the front. The background there would show no sign of bruising if the work had been done on pitch, and a very slight and generally distributed scratching or bruising if done upon an anvil. The slight hollowing beneath the figures, discussed above, would not be present, for carving has practically no effect upon the underside of the work, and the small amount of chasing required to 'touch up' a carved surface would not have disturbed the level surface. It is evident that these works were not carved. How, then, were they executed?

There is another method, one which was employed fairly frequently by the Roman craftsmen in the fourth century A.D. To demonstrate this method I worked the small sampler shown in fig. 3 lying upon one of the Mildenhall platters. I took some silver of similar quality to that from another of the Mildenhall finds (which assayed fine silver 95.2 per cent., copper 2.3 per cent., remainder oxides and dross) and cast an ingot of the same thickness as that from which the platter was made—one-tenth of an inch. The ingot was carefully weighed. It was then laid upon a steel anvil and the whole of the work done by modelling and chasing from the front; no work at all was done from the back. The ingot was annealed from time to time as it got hard. Punches and chasing tools alone were employed, and no scraping, polishing or other finishing operation was done to it. When completed, the work was again weighed, and was found to have lost less than one

three-hundredth part of its original weight; this very slight loss was probably due to a little flaking-off of the surface of the background under the arm, where the working was most severe and a little scaling of the surface was noticed. The surface, of course, could now be scraped and smoothed to the fine degree of surface modelling and polish shown in the original work, but it is left untouched in order to demonstrate the simplicity and ease of this method of producing the relief by work solely from the front. Indeed, if, as in this case, a heavy piece of plate was to be made, there is no other method by which it could be more quickly and simply or so satisfactorily produced. The method is direct, and the final result in sight all the while. Possibly I ought to have copied the modelling of the original more closely, but enough has been done to demonstrate my point that the Mildenhall dishes were produced by direct modelling and chasing from the front.



FIG. 3. SAMPLER, WORKED BY THE AUTHOR, LYING UPON ONE OF THE MILDENHALL PLATTERS

*By courtesy of the Trustees of the British Museum*

An examination of the back of the sampler shows all the signs which one would expect to find in a work produced by this method: (a) the bruised, level background, emphasized opposite the deepest hollows on the front; (b) the slight hollows under the figure; (c) the absence of any signs of work done from the back. And on the front one finds, as one would expect to find, that (d) the background is not very level. It tends to run deeper wherever the worker tries to emphasize the height of the nearby forms. And as a rule he does not trouble to produce a flat surface comparable with that so easily obtained by the modeller. All these signs may be observed on the Mildenhall works which we are discussing, though they are obscured by the scraping which they underwent during the polishing and finishing treatment.

Before leaving these works it will be well to look again at the rough surface on parts of the flanged bowls (*Handbook*, Nos. 7-10), which was referred to above as suggesting

a cast origin. It is to be found on parts of the sheep and on the background near them. The roughness consists in a series of 'pimples,' silvery in colour, forming a kind of 'rash': a surface such as might have been found upon a metal cast. Those parts of the animal which are in higher relief, though crossed again and again by chased lines, have been scraped smooth, so that any signs of a cast surface must have disappeared from them. But what of the part in lower relief, on which the roughness appears? A close inspection shows that the scraping includes those portions also, and that it passes below the 'pimples.' The pimples themselves can be pushed off with a pointed tool, without damage to the surface of the work. The supposed evidence for casting thus proves to be misleading; it proves only that a faulty observation was made.

Here we may remember that another well-known work of the same character is the Corbridge Lanx. Upon discovery its technical description was given as 'cast and engraved.' Actually, the whole of the ornament was executed by chasing from the front, as described above for the Mildenhall dishes. The sheet of silver employed was very thick: micrometer measurements on the background between the raised ornaments near the edge gave .083

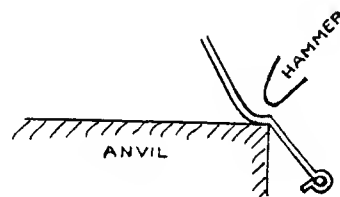


FIG. 4

inch and .091 inch. So the higher parts perhaps run to .15 inch. The extreme edge is possibly about .2 inch thick, and this increase in thickness was probably arranged for by scraping a groove all round the edge of the ingot mould, the plain sheet of metal which was cast thus having a thickened edge. The chasing, both on the field and on the rim, would be completed before the sinking of the central portion of the dish was undertaken. For this part of the work a round-faced hammer would be employed. The ornamented sheet of metal would be held against the edge of a stake or anvil, as shown in fig. 4, and the sinking of the curved portion carried out in the ordinary way. The characteristic accidental grooves cut by the edge of the stake may still be observed here and there on the outer side of the curve. Another characteristic feature is that the sinking is not carried so far near the corners as near the centre of the long sides. It is quite probable that during the chasing a 'buckle,' or twist, developed, and the deeper sinking of the tray in the centre was due to the worker's endeavour to correct it. He 'left well alone' when he had removed the buckle, even though the sinking at the corners should have been carried farther. Two further points should be noted about this piece. The scraping of the background in front has been carried farther than in the Mildenhall works, and it is in fact a fairly level though not yet a modeller's background. The last point concerns the extreme degree of

polish shown in this work. The silver appears to have been burnished. So brilliant a surface is not a characteristic of Roman work. Search might be made for further examples, failing which it would be interesting to enquire whether this effect owes its origin to polishing received during the last century.

A moment must be given here to the heavy plain rim which serves so many of these works as a foot. The Roman craftsmen, like their predecessors in Sumeria, Egypt, Greece and other parts of the ancient world, were perfectly familiar with the process of hard soldering; for 3,000 years metalworkers had freely employed it. Pliny, who died in A.D. 79, described it as it was practised by the Roman craftsmen of his day. So the appearance of a soldered-on rim in any Roman work need occasion no surprise. The Roman worker did not weld silver or gold; and he had no reason to try to do so.

We will now consider the beaded edges which are to be found on the 'Neptune' dish and on some of the other works. This form of edging was frequently employed by the Roman craftsman. Examination shows that:

- (1) The beads are hollow.
- (2) They show evidence of having been driven up from the back by a round-headed punch.
- (3) In some of the beads the metal has been stretched so far that it is beginning to crack.
- (4) The beads seem to have been driven into and shaped by a square-faced punch with a hemispherical hollow, or cup, in the centre. This punch has left its square trace on the outside of the dish behind each bead.
- (5) The rim outside the row of beads has been driven inwards and upwards (see fig. 5a) so that it is now at right angles to its original plane.
- (6) In the course of this driving-in of the rim, in some of the examples, the beads have become distorted a little, and they are now oval in section instead of round as when first made.
- (7) In some of the bowls the craftsman, in order to strengthen the whole edge, put solder all along the line where the turned-up rim met that part of the wide flange just within the line of the beads.

(8) The craftsman did not trouble to measure out the whole row of beads in advance. He worked them one at a time and set out, by eye alone, the position the next would occupy. When he had got perhaps seven-eighths of the way round the dish he saw that he had too much room and that he would have about half a space over unless he spread the beads out a little. Actually, he found that he could not do this sufficiently, so he had to leave a ridge between some of the beads.

(9) The work on the edge is that of a practical craftsman, but he left it very rough. Perhaps he liked the contrast it made with the finely finished work that it framed.

Exhibited in the British Museum is a founder's hoard from Coleraine, Co. Derry, including several pieces of the

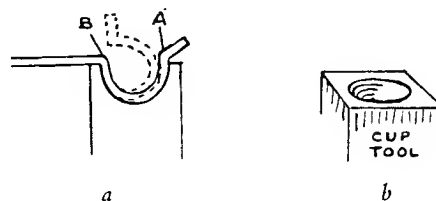


FIG. 5

rim of a large dish which had a beaded edge very like those in the Mildenhall series. The beads on these fragments were quite clearly formed by *repoussé* work.

A copy of the beaded edge on one of the Mildenhall dishes was made in the Museum Laboratory by Mr. Batten. He first made the square-ended cup tool shown in fig. 5b and, using it (held in a vice) as a die, he drove up the beads with a round-headed punch. This work left the rim at A, beyond the beads, tipped upwards a little (fig. 5a). Then, with hammer and the cup-ended tool used as a punch, he drove the rim inwards till the metal at A practically touched that at B, as in the Roman examples. A little tooling between the beads completed the sampler. The trace of the square-faced cup tool corresponded well with that on the Mildenhall example.

## CULTURE SEQUENCE IN THE STONE AGE OF NORTHERN EUROPE

by

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*Director, University of London Institute of Archaeology*

**44** Since I published a note in MAN (1943, 17) on the basis of information that had trickled through in the first years of the war, the receipt of a stream of full reports on excavations and studies published in Denmark and Sweden during the war years has very substantially modified and clarified our picture of the culture sequence in the West Baltic lands. The most crucial discoveries have been due to detailed explorations and excavations undertaken by the Danish National Museum at sites on Aamose<sup>1</sup> on

Zealand, where Westerby had reported in 1937 the discovery of pottery associated with Maglemosian relics and in Boreal contexts; and secondly to the systematic examination of kitchen middens at Dyrholmen and Kolind in Jutland.<sup>2</sup> Both these major operations were deliberately directed to correlating the archaeological, geological and palaeobotanical observations.

Sixty distinct sites were examined in the large peat lands termed Aamose. Four of these—Magleö, Kildegård,

Hesselbjerggaard and Øgaarde—could be dated pollen-analytically. Some sites each yielded a single homogeneous group of relics assignable to a single stage or period, but Øgaarde, where the most extensive operations were conducted, must have been occupied in four distinct periods. The centre of occupation was a small holm covered under the peat with a relic-bearing deposit only 20 to 30 centimetres deep. On the slopes, however, the deposit was deeper but less prolific, as in our Fen sites. A mixture of Megalithic, Ertebølle and Maglemose types occurred on the islet, but excavation by 10-centimetre layers allowed the definition of four stratigraphically consecutive assemblages, distinguishable by the relative proportions of characteristic types of flint 'axes,' arrowheads, microliths, bone implements and sherds. Obviously in such a thin deposit the stratigraphical position of individual objects is extremely precarious. A couple of sherds from Øgaarde I do not suffice to prove pot-making during Jessen's Zone V time. A sherd embedded in the peat of Zone V was 'not tempered with powdered granite, indeed there is no certain proof that it had ever been exposed to fire—quite probably it was only sun-dried.'<sup>3</sup> The stratigraphical sequence can, however, be checked by reference to homogeneous finds at pollen-dated sites. In the same way it was possible to distinguish three 'settlement zones' at Dyrholmen and four at Kolind and to connect these with phases of the Litorina transgressions. But once more, owing to the disturbances caused by the transgressions, the assemblages must be treated as differing only statistically.

Before summarizing the results of the new work, it may be well to recall the position reached by 1939. Geologically, near the pivotal axis, not one, but four Litorina transgressions had been recognized—at the beginning, the middle and the end of the Atlantic and early in the Sub-Boreal climatic period.<sup>4</sup> For pollen-analysis Jessen<sup>5</sup> had defined six consecutive zones, of which IV to VI represent phases of Blytt-Sernander's Boreal period, VII A to VII B of the Atlantic, and VIII of the Sub-Boreal. Earlier Mathiassen,<sup>6</sup> by his studies in Gudena, had secured recognition for an inland culture, parallel to but distinct from the familiar Ertebølle of the coastal middens and also distinguishable from the Maglemosean of Zealand. Moreover, Troels-Smith<sup>7</sup> had already established the survival of the Ertebølle culture into Sub-Boreal times and had offered a typology of core and flake axes that would assist the archaeological division of this culture.

The new observations enrich and supplement this picture. On Zealand the earliest phase of the Maglemose culture, still best represented by the eponymous site, Mullerup, goes back to Jessen's Zone V. Klosterlund in Jutland, belonging to Zone IV, is represented as ancestral to the more continental Gudena culture.<sup>8</sup> Characteristic of the Mullerup phase is the poverty of the blade technique and the limited variety of microliths. Svaerdborg represents the development of this industry in Zone VI, now showing many fine microliths. To the same pollen zone (VI) belongs a variant, illustrated at Kongsted in Aamose, with a finer blade technique and microliths that include skew arrowheads—features more at home in the Gudena cycle

and perhaps reflecting influence from Jutland. Finally in Øgaarde II Mathiassen recognizes, in addition to the foregoing Gudena traits, new types including the pebble axe (*trindøkse*), narrower skew arrowheads, deeply incised patterns decorating the bone work and perhaps pottery. All these features are thought to be due to influence from a hypothetical 'coastal culture,' a sort of precursor of Ertebølle. Still later, not pollen-dated but probably belonging to Zone VII B, appears a complex illustrated by assemblages from two sites, Maglelyng and Kildegård East, on Aamose which maintain the Maglemose tradition in bone work but show coarse pottery, transverse arrowheads and other types paralleled in Ertebølle. The persistence of the Maglemosean, influenced by Ertebølle, as well as by Gudena and even by the Neolithic cultures of the Dolmens and Passage Graves, is illustrated by the relics from Kildegård (dated to the transition from Jessen's VII B to VIII) and from other sites in Aamose. Finally sub-divisions of the culture sequence in Atlantic times are due to the excavations at Dyrholmen in Jutland: there three phases of the Ertebølle culture, beginning in the middle of the Atlantic period (Zone VII B) about the time of transgression II and lasting into the Sub-Boreal right through the last transgression, were identified. Typological analysis of the relics appropriate to these phases supplements Troels-Smith's pioneer study and makes possible the recognition of these phases also in other kitchen middens. A still earlier phase of coastal culture may be directly represented by the relics from Carstensmunde, Amager, and by Gislinge-Lamnefjord and Bloksbjerg in Zealand.<sup>9</sup> This phase is still unrepresented in Jutland and does not seem to go back earlier than Zone VII A.

The survival of the Ertebølle culture into the Sub-Boreal period is now further documented by the latest excavations at Dyrholmen (III) and Kolind. The few Neolithic relics found here, sherds of fine ware, one thin-butted and one sharp-butted axe and a tongued mace head, are most appropriate to the Dolmen period but could all recur in the earliest Passage Grave phase. The relation of these surviving 'food-gatherers' to the 'food-producers,' who first appear in the Sub-Boreal, has been further elucidated by Mathiassen's comparison of the materials collected at Havnelev and Strandegaard, both in southern Zealand.<sup>10</sup> The former, situated in a sheltered spot on good agricultural land, three kilometres from the coast, yielded characteristic Neolithic remains—imprints of emmer, bread-wheat and barley, five querns, bones of cow, sheep and pig, but very few of game animals (red deer), twenty-eight polished thin-butted axes, sherds of eleven collared flasks, 211 funnel-necked beakers and a polygonal battle axe—but 153 flake axes and sherds of nine cord-ornamented beakers: no Ertebølle pots were found. The famous Strandegaard house, on the contrary, lies on the shore close to a Litorina beach. No grain imprints or querns suggest any sort of cultivation. Among the sparse animal bones, game are represented by seal, wild boar, red deer and dove; domestic stock only by cow. The relics included 74 core and 323 flake axes but only 4 thin-butted axes, bits of 22 Ertebølle jars and 10 blubber lamps; but 8 cord-



ornamented beakers and 21 funnel-necked beakers. The clear contrast in economy and equipment is reinforced by reference to flint technique. The occupants of Strandegaard were masters of the sure blade technique characteristic of Ertebölle, while blades were relatively rare at Havnelev and of miserable workmanship. On the other hand, the common points in the two industries are so numerous that both must be assigned to the same archaeological period, viz. the Dolmen period. Strandegaard's occupants can perfectly well be regarded as descendants of the Ertebölle folk, influenced by Neolithic neighbours. The contrast in the flint work should show that the latter must be a new people with quite distinct traditions. The corded beakers, common to both sites, remain a problem. Brøndsted, of course, on the strength of grain imprints on such vases from other sites and of a single contracted burial accompanied by one in a shaft grave at Virrings in Jutland, had made cord-ornamented beakers the symbols of the first farmers to reach Denmark and had assigned their arrival to a pre-Dolmen period and, in fact, the old Montelius I. Mathiassen insists that there is no evidence that any of these corded beakers are pre-Dolmen, a point already made by Rydbeck in 1938.<sup>11</sup> In fact, in Blekinge, the corded ware in question, though underlying a deposit containing Ertebölle pottery, seems to be later than the last Atlantic transgression (L.G. III), though anterior to L.G. IV.<sup>12</sup>

The possibility that the corded ware of the type represented at Strandegaard and Siretorp and the contracted burial at Virrings should be the immediate antecedents of the beakers and burial rites of the Separate Grave folk of Jutland is rejected by Glob.<sup>13</sup> By an exhaustive analysis of the furniture from stratified graves of this group, he confirms and refines the typological sequence adumbrated by Sophus Müller fifty years ago. Incidentally, Glob draws attention to and illustrates structural features—wooden plank cists, shaft graves, ring ditches round the grave—that have significant parallels not only in Pontic and other Continental Battle-Axe cultures, but also in British Round Barrows. He advances good grounds for rejecting as Separate Graves those claimed by Brøndsted as belonging to early Passage Grave times, and insists that the earliest genuine Separate Graves (*Untergraves*) belong to Middle Passage Grave times. They are, therefore, separated chronologically from the corded ware of the Dolmen times. This has, moreover, a too easterly distribution to be the parent of that of the Jutland Battle-Axe folk. Similarly, the earliest Jutland battle axes, although very metallic (all the stratigraphically earliest varieties show imitation casting seams that disappear on later types), with the blades splayed out only downwards, do not seem directly derivable from the equally metallic polygonal battle axes of the Dolmen period with symmetrically splayed blade.

A new sub-division by Mathiassen<sup>14</sup> of the material from the Passage Graves period helps further to clarify the Danish sequence. This sub-division is based not on the finds from collective tombs, where the furniture belonging to

successive interments can seldom be distinguished, nor yet on typological and stylistic considerations, but on a comparison of the relics from five settlements—Tröldebjerg,<sup>15</sup> Blande bjerg,<sup>16</sup> Trelleborg,<sup>17</sup> Bundsö<sup>18</sup> and Lindö<sup>19</sup>—and thus continues the series initiated by the earliest Neolithic site of Havnelev. These, though not stratified, each yielded a distinct but internally coherent assemblage of relics. Mathiassen assumes plausibly that each was occupied for a short time only: then the settlers removed to another site, presumably because the soil had become exhausted. (It is to be inferred that the old family sepulchre must have been still used.) The most novel conclusions refer to the earliest phase represented by Tröldebjerg. To this belong already *Cardium* ornament as well as whipped cord, clay ladles, pedestalled bowls and battle axes of Fredsgaarde type. Thick-butted axes, stone double axes, sharp-butted axes and Walternienberg vases appear first in Blande bjerg. The contrast between Tröldebjerg and Havnelev, in particular the absence from the former of polygonal battle axes and corded beakers, refutes both those who, like Daniel, wish to suppress the Dolmen period altogether and those who, with Rydbeck, would prefer to transfer corded ware and polygonal battle axes to the Passage Grave period. It is noteworthy too that the distinctive 'Danubian II' types are confined to the earlier phase of the Passage Grave period.

In this connexion, attention should be called to Glob's paper in *Acta Archaeologica*, X (1939), on the influence of Danubian culture in Denmark. He cites a number of Danubian shoe-last adzes or ploughshares, one allegedly from an Ertebölle site, and compares several early pots of the Dolmen period with Danubian vases of the Rössen group. Still, not all his comparisons are convincing and he seems to include among his 'Danubian' adzes the well-known implement from Holmgaard that was apparently perforated by percussion in the true Mesolithic manner.

#### Notes

- <sup>1</sup> 'Stenalders Boplads i Aamosen,' *Nord. Fortid*, III, 3 (1943).
- <sup>2</sup> 'Bopladsen Dyrholmen,' *Det. K. Dansk Videnskabernes Selskab Ark.-Kunsthist. Skrifter*, I, 1 (1942).
- <sup>3</sup> 'Aamosen,' p. 95.
- <sup>4</sup> *Medd. Dansk. Geol. Foren.* IX (1937).
- <sup>5</sup> *Acta Arch.*, 1934, pp. 185ff.
- <sup>6</sup> *Aarbøger*, 1937.
- <sup>7</sup> *Acta Arch.*, VIII (1937), pp. 278f.
- <sup>8</sup> Brøndsted, *Danmarks Oldtid*, Vol. I, pp. 41-2.
- <sup>9</sup> 'Dyrholmen,' pp. 64-8.
- <sup>10</sup> *Aarbøger*, 1940, pp. 1-46.
- <sup>11</sup> 'Meddelanden från Lunds Universitets Historiska Museum.' K. Humanist. Vetenskapssamfundets i Lund, *Arsberättelse*, VI, 1937-8.
- <sup>12</sup> Bagge and Kjellmark, *Stenalders boplatserna vid Siretorp*, 1939.
- <sup>13</sup> *Aarbøger*, 1944.
- <sup>14</sup> *Acta Arch.*, XV (1944), pp. 88-91.
- <sup>15</sup> Winther, *Tröldebjerg*, 1935; *Tillaeg*, 1938.
- <sup>16</sup> Winther, *Blande bjerg*, 1943.
- <sup>17</sup> *Acta Arch.*, XV, pp. 80ff.
- <sup>18</sup> *Aarbøger*, 1939.
- <sup>19</sup> Winther, *Lindö*, 1926.
- <sup>20</sup> *Proc. Preh. Soc.*, 1941, pp. 21f.



## ROYAL ANTHROPOLOGICAL INSTITUTE PROCEEDINGS

### **The Social Condition of Women in Two West African Societies.** *Summary of a Communication to the Institute by Mme Denise Paulme-Schaeffner, 28 October, 1947*

**45** The lecturer explained that she would not attempt to cover the whole vast subject of the position of women in African societies—for which, in any case, the available data were still inadequate—but would briefly record the results of her observations among, and conversations with, male and female members of the West African societies in which she had carried out field work—the Dogon tribe of the French Sudan in 1935, and the Kissi of French Guinea in 1945–1946.

It has long been the fashion to think of the condition of Negro women as though it called for the pity and indignation of the civilized world: according to this view, the Negro woman, sold in marriage, often against her will or to a husband she had never even seen, crushed with hard work and beaten, without redress or protection against her husband's cruelties, was little more than a beast of burden. This stereotype is rejected by all serious workers: in reality, African women on the whole enjoy rather a high status; they are far from conforming easily to the demands of tribal custom, and indeed the most delicate task of the menfolk is that of getting the women, an essentially unstable element, to settle down in their husbands' families.

The newcomer to the Dogon of the Niger Bend is always struck by the great degree of freedom allowed to the wife: freedom to choose her own husband (she can always turn down the fiancé proposed for her, and will if necessary run away with someone else); sexual freedom up to the time of the birth of her first child, both she and her husband being entitled to carry on open liaisons until then; and freedom of divorce, the wife going back to her father's family or, more commonly, settling down with another man. Thus wives can be classified under two heads: *ya biru* (from *biru*, 'work,' the husband having worked several years for his parents-in-law-to-be to win his bride); and *ya kedu* (where *kedu* means 'cut off,' i.e. divorced from a previous husband). The wife lives with her father until her first (formerly her third) child is born, and only then goes to live with her husband and makes a social reality—all too short-lived in many cases—of their union. Since marriage is patrilocal, Dogon women do not become attached to the villages in which they were born, knowing they must leave them on marriage: and, on the other hand, the young wife's parents-in-law tend to keep her rather at arm's length, treating her as a stranger of indeterminate intentions and excluding

her from the observances of the family ancestor cult. The lack of cohesion or real union between married couples, of which the lecturer gave concrete examples, is further aggravated by the institution of polygamy, though it often exists in little more than theory. The life of a woman in her husband's compound is rather like that of a tenant: she keeps her own kitchen garden (and sells its produce in the market), has her own personal interests, her own goods and chattels; she is, in fact, only 'on loan' to the husband's family. Only when she reaches old age and can no longer hope to bear any more children will she finally settle down for good with one husband, whose death will leave her without means of support and in increasing destitution.

The initiation of girls, nowadays a matter of little or no importance among the Dogon, still plays a great part in the life of the Kissi people of the tropical forest on the borders of French Guinea, Sierra Leone and Liberia. The retreat in the bush after the excision varies from one month's duration in the northern Kissi country to a whole year in the south. The lecturer told how she had assisted at an excision in the region of Kissidugu, followed the complete ritual of the retreat associated with it and penetrated in several cases to the bush living-quarters of the secluded girls. Excision among the Kissi does not represent a ritual rebirth, as has been so often reported from other societies, but is rather the indispensable *rite de passage* marking the transition from childhood; it is the essential test of adolescence. Marriage (again patrilocal) follows soon afterwards, and women who become pregnant before complying with the rules of initiation are always anxious to be operated on before giving birth, perhaps with a vague idea of easing their delivery thereby, but above all for the sake of conformity with their companions who have been through the operation and the retreat in the bush. During the retreat no instruction is given and no mystery revealed: but the women taking part in it absorb, from talking among themselves, a much clearer idea of their importance as women, as opposed to the male element in society. Women are the 'guardians of life,' for to them alone belong the secrets of birth: 'men'—so runs the conviction, more or less clearly formulated, which they bring away with them from their stay in the bush—'cannot do without us.' Whatever the husband that each of them is eventually to marry, and into whatever family and village, she has acquired once and for all that independence, that free and assured bearing and complete indifference to the external world which are always such striking attributes of the women of black Africa.

## REVIEWS

### AFRICA

#### **The King of Ganda : Studies in the Sacral Kingship in Africa.**

**46** *By Tor Istam. Ethnographical Museum of Sweden, Stockholm, New Series, Publication No. 8, 1944. Pp. 203, 2 plates and 19 maps. Price Kr. 30*

In these days of paper shortage and of arbitrary interference by Government departments, the receipt of a stately monograph, presented in the best tradition of the printer's art, is a rare and delightful occurrence. The present work reaches a high level of excellence in both typography and format. It is good, also, to find that in one country on the fringe of the warring nations the torch of non-military science could continue to burn brightly.

The author has ransacked the whole of the literature on his subject—the aura of divinity peculiar to kingship among those tribes and states in Africa which are either Bantu in origin or affected more or less by Bantu culture. It is a magnificent compendium of the relevant facts and extorts admiration of his immense industry. The profusion of maps showing the distribution of each important phase of the sanctity so generally inherent in African kingship and of the many customs centring in it is one of the most valuable features of this fine contribution to ethnological data. The range of ceremonies and customs enumerated and fully documented is so extensive and so minutely examined that an adequate review is precluded in the

space available. Each of the many sections of the subject would require a separate review—each is such a mine of information and raises so many important issues.

The regional distribution of the various elements of the cult, as elucidated by means of the nineteen large maps provided, has great value for working out the track taken through the higher parklands after its initial introduction into Africa; for the author has no doubt that in its essentials it is of exotic origin, although, as will be mentioned later, there have been several local centres where specialized modifications arose, giving birth to sub-cultures. These maps afford clear evidence that the original cult entered Africa from the south-west corner of Arabia by way of the lands now known as Abyssinia and Somaliland—'God's Country' of the ancient Egyptians. Thence it spread in two directions, one due south to the region of the Great Lakes and onwards to Rhodesia, the other westwards through the Sudan to Sierra Leone, with centralization south-west of Lake Chad and down the Benue to the Benin coast. In Rhodesia a local development arose which has also been termed the Monomotapa-Zimbabwe culture complex; another parallel development occurred in the Sudan, forming the 'New or Young Sudan Culture' of Baumann. Another weak spread went west from the Lake region to Angola and the Congo.

It is noticeable that Madagascar remains blank on each of these nineteen maps. Whether this arises because the author excluded the great African island from detailed survey or because he found no trace of the divinity of kings in its cultural make-up is not stated. This requires clarification, for if the people have no belief in the divine attributes of their tribal chiefs and in the economic advantages resulting therefrom, this attitude would be evidence in favour of the view that the Negro (Bantu) element in Madagascar is derived from the importation of slaves from the African mainland by Indonesian colonists, because these slaves, being obtained from various tribes, would have no cultural cohesion; in their servile and scattered condition, their own customs concerning kingship would be suppressed and ultimately forgotten.

Taking this culture complex as a whole, the author notes the contradictory views held by writers on its origin. He points out that Seligman and his school favour a Hamitic origin of 'Divine Kingship' and stress the great influence exercised by ancient Egypt upon African culture in general; whereas many German scholars, including Frobenius, consider, on the contrary, that ritual regicide and its attendant customs are foreign to Hamitic culture and are in great degree a development within Africa itself (though probably based upon ideas received from an eastern source, *via* southern Arabia). Driberg says of the origin of a sacred kingship ('Gala Colonists and the Lake Regions of Africa,' *Ethn. Stud.*, I, 1929, pp. 212f.):

'When a dominant, immigrant culture finds it necessary to impose its own religious, social and economic system on a comparatively backward civilization . . . it is bound to bolster up its precarious supremacy with religious sanctions. It does not require much imagination to see that all the factors are present for the development of such an institution as the sacred kingship.'

In summarizing the bearing of the various facts, the author comes to certain definite conclusions. The first is that the idea of divine kingship prevails, in varying degrees of strength, throughout practically the whole of Africa. He admits that many ceremonies of the cult were known in ancient Egypt, but he is unable to believe that ritual regicide was practised there as Seligman (somewhat hesitantly) suggests. The origin of the cult is definitely placed outside Negro Africa, its basic elements having come, in Dr. Irstam's opinion, from the 'Near East' (*i.e.* 'Middle East,' if Iraq, Iran and Southern Arabia be meant). This eastern influence undoubtedly entered Africa through south-west Arabia, where a strong Semitic element has long been mixed with a (possibly) Dravidian one. A second place of entry would appear to be in the vicinity of Sofala; probably this led to the differences seen in the Rhodesian kingship ritual from that found in the northern or Lakes region; the intruders on this coast appear to have come from farther east in Arabia—from Oman and even from the Persian Gulf. The author states, for example (p. 193):

'Special features of the sacral kingship that lead us to think precisely of the Near East are for example the notions of the scapegoat (p. 21), the substitute-king (pp. 21 and 78ff.), the water of life and the life-tree (pp. 22, 66ff. and 70), and the identification of the king's life with the life of the country (pp. 35, 40 and 184). . . . From the Near East nomad peoples have in the course of centuries immigrated to Africa in different waves. The majority of the larger states in Africa can in all probability be traced back to these nomad peoples, who also, as I believe, took with them the sacral kingship.'

No index is provided, its place being supplied in part by a fairly comprehensive list of contents and of distribution maps.

This book is one which no student of African ethnology can afford to be without. It is a worthy addition to the lengthy list of works devoted to the collection and collation of all known information on special subjects of African culture which have resulted from the intensive study devoted to this field by Professor Lindblom and his collaborators. They mapped out their scheme of work and each cultivates his selected field of study. The results are outstanding.

JAMES HORNELL

**The Cultures of Prehistoric Egypt.** By Elise J. Baumgartel. O.U.P. (Geoffrey Cumberlege), 1947. Pp. xi, 122, plates and figs. 47 Price 42s.

Mrs. Baumgartel has rendered a conspicuous service to Egyptian studies by having undertaken a systematic examination of those large parts of Sir Flinders Petrie's predynastic collections which, ever since his excavations at Naqāda and other famous sites in the nineties, had reposed at University College unseen and unpublished. A scale for Mrs. Baumgartel's labours is given on p. 26 by the statement that nearly 2,200 predynastic graves were excavated at Naqāda alone, of which only 138 have been published and 24 illustrated. It is our misfortune and not her fault that the intended catalogue which would have enabled students to weigh the merits of Mrs. Baumgartel's often very controversial deductions must await less austere times.

Her views cluster round, or arise from, certain general propositions, which include the following: (a) The Delta region and alluvial plain of Egypt were uninhabitable through damp in the earlier predynastic periods—Tasian to Naqāda I (Petrie's Amratian) inclusive—and impassable for the passage into Africa of native Asiatic sheep. The Aden Straits are alternatively suggested. Contemporary tree roots testify to the prevalent humidity of Upper Egypt. Hence these earliest settlers were forced to occupy dry spurs of marginal desert. (b) The Delta region and valley north of Assiut contributed nothing to predynastic civilization before the Naqāda II (Petrie's Gerzean) period, which was not, in any case, of Delta origin as Newberry propounded. (c) The Faiyum-Merimidian culture is neither of one period nor of the usually attributed antiquity. Faiyum A was an outlier of Naqāda I; Merimde was contemporary with Naqāda II. (d) Naqāda I and Faiyum A are pure 'core' cultures of bifaced type; Naqāda II was a highly developed 'blade' culture. (e) Though the Upper Sebilian and Helwan industries are 'blade' and near relatives of the Capsian and Natufian respectively, the earlier predynastic cultures being 'core' cannot be in direct North African technological succession, but must be intrusive, possibly from Nubia (A group affiliations), or ultimately perhaps from Mesolithic or Neolithic groups in South Africa (the use of the term 'Neolithic' in Egypt is severely criticized). (f) The painted pottery of even Naqāda I (white cross-lined) was dependent on Western Asiatic prototypes, and 'all those achievements of the prehistoric Egyptians which are eneolithic depend similarly on Western Asia' (p. 52).

These major propositions, and others, will probably not wholly commend themselves to all students of Egyptian prehistory, and the following doubts occur to the present reviewers:

(a) What is the evidence that Deltaic and marginal Egypt was so swampy that the passage of flocks would be impossible? In early predynastic times sea and river level, though rising, were certainly still many metres lower than now and the configurations of relevant land areas in the eastern borderlands higher. Are tree roots the safe

indicators of higher precipitation they have been taken to be? The species recorded, believed to be Tamarisk, Acacia and *Ficus sycamorus*, are desert plants which could and do subsist on invisible seepage in arid limestone scree as in desert South Arabia today, where, doubtless as in predynastic Egypt, they are progressively destroyed by man for brushwood or by goats for food. The earliest settlements and graves discovered are indubitably above the ever-rising alluvial plain; but may not Brunton's surmise, that Badarian remains are so few because, being early, they are nearly wholly submerged, be the correct one? (b) Mrs. Baumgartel's objections to the Delta connexions of Nakāda II are closely reasoned and her observations on the so-called 'home ensigns' convincing. Nevertheless, given the flourishing late paleolithic industries of the Delta region, it is probably unwise to deny the possibility of continuous developments there. (c) and (d) The classification of predynastic flints into 'core' (Faiyum A—Tasa-Badarian—Nakāda I) and 'blade' (Nakāda II) industries seems a dangerous over-simplification. In any case, the Faiyum A group is not a 'core' industry in the accepted technological sense but a predominantly 'plaque' industry of thin, flat-cortexed pieces of natural tabular chert peculiar to the locality which being blunt-edged required bifacial treatment. Bifacial retouch is considered by Mrs. Baumgartel to be characteristic of the earlier predynastic groups, including Faiyum; the unifaced style to be a Nakāda II hall-mark prominent also at Merimde. Her examination of the unpublished University College tomb groups enables her to be insistent on this important point. On p. 15 is the statement, 'It struck me forcibly that with the exception of one or two rough blades the whole of the blade material, as far as the graves could be dated with certainty, belonged to Nakāda II,' and on p. 28, 'As soon as I had arranged the Nakāda material in tomb groups and had separated the dated tombs of the two Nakāda periods, it turned out that, apart from two atypical flakes in two Nakāda I tombs and one doubtful twisted blade, all the flints of Nakāda I were of the bifacial type.' Here, then, are facts based on a sufficiency of material. But whether the distinction, though undoubted, is nearly as absolute as the Nakāda-Ballas tomb groups suggest must remain problematic until modern excavations provide a check by noting *all* flint implements. This was certainly not normally done up till the late nineteen-twenties, when it was still exceptional for excavators to save the rougher flint artifacts (which include the majority of blades). Under this selective process the 'better' specimens—the bifaced tools—alone were collected. This shocking fact obviously does not invalidate Mrs. Baumgartel's observations as a whole; but it may explain why 'blades' seem to be virtually absent from the Nakāda I graves in the University College collections: they were in a minority and rough, whereas in the Nakāda II graves they were of better quality, and the very attractive 'serial' technique (by which a large nodule may be split up into numbers of complementary flakes until full reconstitution of the nodule is possible) had begun. Meanwhile it is chastening to remember the 'innumerable flakes' recorded by Brunton in the Badarian, with one to ten in individual graves (*Bad. Civ.*, pp. 35, 37); and in Nakāda I graves (*S.D.* 37-8) twenty flint flakes in one, three in another (*Bad. Civ.*, pp. 45-6, 47).

The author perhaps underestimates the extent of earlier recognition that Faiyum types, including grinding and polishing, occur in Nakāda I. Sir Flinders himself certainly was fully conscious of it. Yet in many discussions of its significance with one of the present reviewers, it was agreed that this fact had no certain chronological significance, since the Faiyum group, not omitting the pottery, judged as a whole seemed to bear ancestral characters developed, declining or superseded in Nakāda I. Indeed, it appeared as though basic Faiyum-type characters became progressively weaker down the predynastic ages, but had not wholly disappeared even in Nakāda II (concave-base arrowheads, etc.). For example, the axes of Faiyum A type, amounting to 41·2 per cent. of the tools in Kom W, became steadily rarer in later epochs, and even in the Tasa-Badarian had yielded first place to the later, ovate type and the transverse-edged variety, both wholly absent in the Faiyum, which by Nakāda II had ousted Faiyum forms completely.

(e) Mr. Arkell's recent discoveries in the Sudan certainly extend the range of permissible speculations as to predynastic origins. Meanwhile it is gradually becoming clearer that elements of pre-

dynastic flint work were drawn from late paleolithic local prototypes. The leaf-shaped bifaced arrow tip of Badari goes back to the Aterian, as does bifaced retouch in general: the small transverse or *tranchet* arrow tip of Nakāda II need owe nothing to Asia, since it occurs in far older contexts in Kharga. (f) The comparisons between Egypt and Asia are clearly stated, though we are hardly yet in a position to draw conclusions, principally because excavation in the areas between has not yet given us the required evidence. But it is interesting to note that the painted pottery of Egypt and Asia has not been found in Palestine (excepting the bird pottery of Gaza) or South Syria; nor has Glueck's survey in Transjordan brought it to light.

Mrs. Baumgartel's well produced book is bound to stimulate ideas and refresh discussion.

G. CATON-THOMPSON

J. WAECHTER

**The Anatomy of Lango Religion and Groups.** By T. T. S. Hayley. C.U.P., 1947. Pp. xii, 207, 13 plates and a map. 48 Price 21s.

This book contains, in the author's own words, an attempt to 'dissect the structure of Lango society into its constituent groups, and analyse the physical and emotional forces which kept each group in existence.' It is based on a visit to Lango which lasted from September, 1936, to May, 1937. The author claims that the Lango received him as Driberg's classificatory son; and he says further that his interpretation follows closely that of Driberg.

The first chapter contains a statement of the principles of Lango religion, white magic and black magic as understood by Mr. Hayley. The rest of the book is occupied with a summary of the tribal groups and descriptions of ceremonies which concern these groups (clan, *etogo*, family, territorial groups and medicine-men—the last having apparently been relegated to the last chapter because the author did not know what else to do with them). The book ends with a combined glossary and index. The second chapter, which deals with tribal groups and ceremonies, would have been much more useful if the definitions had been clearer and the analysis more carefully thought out: this applies in particular to the *etogo* grouping (p. 48), the nature and function of which is not clear. Fuller details of the *Jo awi dyang* group would have been welcome, as it appears to be in some ways analogous to the *Kaptich* and *Kimanagan* systems of the Nandi and Kipsikis.

The constant refrain 'I never saw . . . ' attests the impossibility of making a satisfactory study of the religion of an African tribe in so short a period as seven months. On the credit side, the author's account of ceremonies which he himself witnessed, or on which he was given detailed information, is of interest, and forms a useful supplement to Driberg's book. His observations on the changes which have taken place since Driberg wrote (his book was published in 1923) are also of interest, especially those which relate to the decay of the age-set system. Yet these accounts, interesting as they are, do not present a view of Lango organization as an integrated whole, and they fail to show either how 'the religious beliefs permeated the whole of the social system' (p. x) or how they 'kept each group in existence' (p. ix). Among contentious points may be mentioned the comparison of the services performed by the mother's brother's group with the 'dole' of our own culture (p. 55), the confusion of the terms 'age-grade' and 'age-set' (pp. 60-62) and the definition of Swahili as the lingua franca of Uganda (p. 194). The long and quite irrelevant extract dealing with *pisé de terre* could have been omitted.

G. W. B. HUNTINGFORD

**Copperbelt Markets: A Social and Economic Study.** By W. V. Brelsford, with an appendix by W. Allan. Lusaka, 1947. Pp. 49 110. Price 2s.

This book deals with the organization of the African markets in the four copper-mining centres in Northern Rhodesia. The author was stationed at Mufilira, and between November, 1945, and April, 1946, made enquiries there into the places of origin, prices and profits for each commodity sold in the market, as well as into the tribal affiliations and previous occupations of the

market traders. He visited all the other Copperbelt markets during the same period, and he includes information on their history and legal status, and on the operation of price-control. Little information has been available previously on these topics, and this valuable account draws attention to the increasingly complex relationship between industrial enterprise and the peasant economy in Northern Rhodesia.

The picture he presents is one in which most transactions are carried out by individual traders who operate on their own account and usually make their own journeys, sometimes over hundreds of miles, in search of the goods they wish to sell in the market. The number of traders is high in relation to the total quantity of goods sold, so that the turnover per head is low: for instance (p. 64), a man went 250 miles by train and 270 miles by road to a rural area to buy 35s. worth of tobacco; he returned by the same route, and after a week in the market had sold only one-sixth of the amount. Because of the low turnover and high transport costs, the market traders need to sell at a very high price, sometimes as much as twice the cost price, to make trading worth their while.

The different commodities sold, nearly all of them foodstuffs, originate from a wide area, mention being made of rice and ground nuts being carried 650 miles, chicken 300 miles and sorghum 200 miles. The traders themselves come from even farther afield, and include men from Southern Rhodesia and Nyasaland, and women from Nigeria. The Copperbelt lies in the tribal areas of the Lamba and Lina tribes, yet the degree of participation of these peoples in the trade of the markets is low. Allan, in his supplementary note, discusses proposals he has made for a buying and transport organization to serve these areas. Both he and Brelsford advocate buying schemes in the region of Lake Bangweulu, for cassava and fish, in the hope that such schemes would lead to a reduction in wholesale prices and transport charges, and would enable the same amount of market trading to be carried on by a smaller number of people, thus achieving lower retail prices and increased trade. In the *Ten-Year Development Plan for Northern Rhodesia* (Lusaka, Government Printer, 1947, p. 71), little information is given concerning the Government's proposals for the development of marketing, and it will be interesting to see how far these schemes are implemented.

It seems surprising, in view of the development of co-operatives

in Nyasaland, that no co-operative trading, other than by relatives, appears to exist in this area. In the fish trade (p. 68) there are intermediaries, who buy in the villages and sell to the resident market traders, but it is not clear to what extent they exist in other trades, or to what extent wealthier traders employ other Africans. It would be interesting to know whether there are any differences in the Chibuluma market (p. 7) due to its being in a purely African township. In any future edition, page references to the works cited by the author should be added.

J. A. BARNES

**Currency in Roman and Byzantine Egypt.** By Louis C. West and Allan Chester Johnson. Princeton Univ. Press; O.U.P., 1944. Pp. 195. Price 20s.

**50** The general rule in antiquity about the evidence in problems of currency is that it varies inversely with the intensity of the interest. Egypt is one of the great exceptions. Its economic interest is as great as that of any other country, and the tradition is of unrivalled quality, owing to the two factors of the papyrus plant and the dryness of its sandy soil. And yet Messrs. West and Johnson have had no easy task before them; for the evidence, though plentiful, bristles with unsolved problems. For all this, the case is always clearly stated and summed up and conclusions are reasonably and thoughtfully drawn. Nowhere will the student fail to find some help for his needs; but one reader, at least, is still unconvinced that the last word has yet been said on such problems as the *Ῥυπαραὶ δραχμαὶ* or the *Ἰταλικὸν νόμισμα*.

Egypt, as it passed to Rome by inheritance from the Ptolemies, was a great civilized—shall we say 'over-civilized'?—state, geared to make the largest possible profit out of its natural advantages. But it was still the Egypt of immemorial antiquity, in which, beside all change, so much remained unchanged—the Nile, the people, its attitude towards its kings and gods. So in this matter of currency the student is never allowed for long to think in terms of comage only. He is constantly up against something far older in history—the currency of gold, silver and bronze side by side, and the relations of the metals to one another.

The book is pleasantly printed and produced, and is probably as easy to read as any book on such a subject can be.

HAROLD MATTINGLY

## AMERICA

**Into the Main Stream: A Survey of Best Practices in Race Relations in the South.** By Charles S. Johnson and Associates. North Carolina Univ. Press and O.U.P. (Geoffrey Cumberlege), 1947. Pp. 333 and index. Price 20s.

**51** In recent months a petition on behalf of the coloured citizens of the United States was presented to a sub-committee of the United Nations Commission on Human Rights. The document was drawn up under the editorial supervision of a number of Negroes eminent in American life and provides a factual description of the various legal and other measures which have the effect of relegating Negroes to a subordinate status in American life.

This book, also edited by a Negro scholar and sociologist of distinction, deals, as its sub-title implies, with the more optimistic side of the picture. It represents a survey of the 'better practices' in the Southern States in respect of such matters as citizenship, employment, education, housing and health facilities. A large amount of material has been collected and the results are not unimpressive. In the South one of the main obstacles to Negro advance has always been the attitude of the 'poor white'; and the authors are probably correct, therefore, in their assumption that it is in this sphere that the greatest single step forward has been made in recent years. One estimate is that since 1935 nearly a million white Southerners have joined trade unions with a hundred thousand Negroes. A further estimate sets Negro membership in all trade unions, in the autumn of 1943, at a little over 700,000. Facts of this kind are of far greater significance than the mere multiplication of inter-racial commissions and committees of good will (during 1943-44 some 220 committees dealing with racial minorities were set up in the United States). For hundreds of thousands of Negroes it means their first participation on a basis of equality in any large organization of men and women.

Another significant point brought out is the sympathetic attitude of the large radio networks to the Negro case, since this has a bearing on the formation of public opinion. Negroes of distinction are probably referred to as 'Mr.' and 'Mrs.' about as often as white notables in similar positions. Even on the screen, despite the persistence of familiar and prejudiced conceptions of the Negro, there has been an increasing number of films, in recent years, depicting the Negro in a more dignified light. In regard to the churches, however, the authors' general impression is pessimistic: when over three hundred letters of inquiry were first sent out to people from one end of the South to the other asking for instances of particularly good practices in race relations, less than a dozen replies referred to any known instance of organized church action. On the other hand, among the various Christian sects the authors note that there are some racially mixed congregations, even in the South, and church administrative boards and commissions contain a number of Negro members.

Altogether, one's general impression from this book is that there has been a considerable amelioration in individual relationships and practices, but the cardinal principle underlying race relations in the South is not greatly affected. Indeed, this point is clarified by Dr. Johnson in his introductory remarks, where he makes it plain that the improvement of facilities for the Negro community is accompanied by an increasing insistence on the principle of separation. In other words, acceptance of the principle of racial equality, progressively evident in the South, is not intended to detract from the rigidity of the colour line. The ideal is still that the Negro should pursue a parallel course, rather than the confluent one which would bring him truly into the main stream of American society.

K. L. LITTLE

## EUROPE

**Monasterboice, Co. Louth.** By R. A. S. MacAlister. Dundalk (*Tempest*), 1946. Pp. iv, 79, with photographs and drawings

**52** The Early Christian monastery at Monasterboice is one of the well-known sites of Ireland, and in this book Professor MacAlister has given a clear and profusely illustrated account of all that remains of the settlement—two small ruined churches, a round tower and three carved stone crosses. Only the 'High' crosses and the base of the walling of the churches can belong to the early period. The round tower dates from the Norse Invasions and presumably lost its top in the catastrophe of A.D. 1097.

Of the thirty High Crosses surviving in Ireland the only dated one is the Cross of Muiredach at Monasterboice, A.D. 922. The author claims the derivation of the stone crosses from the carved wooden Northumbrian crosses, while admitting a time lag of forty years between the erection of the last Northumbrian cross and the first carved stone cross in Ireland. This gap is not explained. Again, the motifs on the panels which adorn the Monasterboice High Crosses are referred to pieces of embroidery work, little of which is known

in Ireland. Because of the author's trenchant criticism of some of his colleagues, we point out with some trepidation that these opinions are controversial. François Henry in *Irish Art*, a work regrettably not listed in the short bibliography, puts forward the more acceptable view that the Irish High Cross decoration arose as a result of a reforming movement, the Culdees, within the early church. She points out that the reformers emphasized intellectual activities and imported new MSS. from Carolingian France, chiefly from Arles: that the scenes on the crosses follow the order of a Jewish prayer of invocation, adapted into the early Christian church as the Cycle of the Help of God. This alternative view holds that Carolingian ivories show the same type of panel and that an ivory in the Louvre corresponds to certain of the scenes at Monasterboice.

One of the most interesting sections of Professor MacAlister's book is a discussion of the art of interlacing. It is difficult to find information on this obscure subject, and the author is to be congratulated on including it in this guide. Throughout the book the photographs and drawings maintain a high standard. J. M. MOGEY

## CORRESPONDENCE

**The Bolas in Africa.** Cf. MAN, 1947, 169

**53** SIR,—With reference to Dr. Harrison's article on 'A Bolas-and-Hoop Game in East Africa,' I should like to offer a few observations and corrections.

This game is, so far as I know, merely a local variation, found in several different tribes, of the spear-and-hoop game which is common over the whole of the East African Territories. The rules of the game vary from tribe to tribe, but since the spear-and-hoop game is clearly linked with the use of the spear as a hunting weapon, and is openly acknowledged in many tribes to be a form of training for hunting with the throwing spear, it may be reasonably supposed that the bolas-and-hoop game is also a true survival of the time when the bolas was used as a hunting weapon in Africa.

Dr. Harrison suggests (as I myself certainly did a year ago) that there are no records of the use of the bolas as a hunting weapon in the African continent. I have, however, since been informed that it is (or was until recently) in use as a hunting weapon in certain parts of West Africa, and that there is also a mural scene somewhere in Egypt depicting the use of the bolas for hunting. I regret that I have no more detail of either of these records, but my attention was drawn to them during the recent Pan-African Congress on Prehistory.

Dr. Harrison is not quite accurately informed on the discovery of bolas stones in East Africa, and I should like to make the position quite clear. Stones which would appear to have served as bolas stones are known in East Africa not only from Olorgesaille but from many other Stone Age sites of several different periods, and, in fact, I published a *suggestion* that the stones found with the Fauresmith culture were probably bolas stones, but there was no clear proof of this. Stones which might have been bolas stones have also been found at Olduvai, with the Lower Palaeolithic cultures, and they occur on all Fauresmith sites. The important thing about the Olorgesaille site, however, was the finding of bolas stones in groups of three *in situ*, and not merely 'lying on the surface,' as suggested by Dr. Harrison. Ten sealed living sites were found there, and groups of bolas stones were found on several of these associated with handaxes and cleavers, and with fossil bones, the remains of the meals of Acheulian man. In addition, of course, many single bolas stones were found scattered on the surface at Olorgesaille where erosion had cut into the deposits and disturbed part of the camp sites.

It may be of interest also to recall that stones suitable for use as bolas stones were found at Bambata by Armstrong, who also, I believe, put forward the theory of the use of the bolas for hunting by Stone Age men in Africa.

L. S. B. LEAKEY  
*The Coryndon Museum, Nairobi*

NOTE.—Dr. Leakey's letter has been shown to Dr. Harrison, who writes:

'I am indebted to Dr. Leakey for his comments and emendations. It is not unexpected that he should be familiar with the bolas game—who more likely?—and I should not have been surprised to learn that he had already used his knowledge in support of the hunting-bolas theory. As regards his suggestion that the bolas-and-hoop game is merely a local variation of the spear-and-hoop game, one is inclined to wonder which is the original game and which the variant; perhaps that is anybody's guess, but tribal views (if any) on the origin and significance of the bolas game would be of interest.

'I was aware that many stones that could have served as bolas weights had been found in various parts of Africa, but I had never hitherto come across any evidence, much less any proof, in support of the speculation. I had been told verbally that the Olorgesaille stones were sometimes found in sets of three, and I am glad to have it confirmed on the best authority, since it is valuable evidence, though still not proof, of the validity of the bolas attribution. The frequency of occurrence of such triplets is perhaps a measure of the strength of the evidence.

'I must express regret for a wording which suggested that only the present-day land surface had provided Dr. Leakey with his invaluable archaeological material, especially as I knew better.

'As to the reports of an Ancient Egyptian and West African use of the hunting bolas, it is greatly to be hoped that Dr. Leakey will pursue the matter further and will be able to secure publication of the evidence. An Ancient Egyptian record would provide an encouraging link between a palaeolithic hunting bolas and the modern East African games bolas; whilst a West African record would establish a very interesting extension of the recent or modern distribution of a weapon hitherto accepted as being confined to South America and the Arctic regions. It might then be regarded as an Old World palaeolithic weapon which, like the palaeolithic spear-thrower, became extinct, or nearly extinct, in its region of origin, but spread to various regions of the New World and survived until modern times. A detailed description of a West African bolas would also be of great technological interest, as would an account of its use against hunted animals. It is no doubt over-optimistic to hope for so much, but Dr. Leakey has whetted our appetite—or mine at least.—ED.





FOUR SHARK-TOOTH WRISTLETS IN THE BRITISH MUSEUM

*By courtesy of the Trustees*



# SHARK-TOOTH WRISTLETS IN OCEANIA

## A TECHNOLOGICAL STUDY \*

by

ADRIAN DIGBY

**54** On page 55 of the first volume of James Edge Partington's magnificent *Ethnographical Album of the Pacific Islands* is a drawing of a sennit<sup>1</sup> wristlet armed with three shark teeth. It is there attributed to Hawaii, but the author evidently had qualms about his original attribution, for in his own copy he has made the following entry: 'Micronesia'—'when of sinnet this form is always Micronesia.'

It is well known that shark teeth are used over a wide area in the Pacific Ocean (and also by the Eskimo of East Greenland) as tools or weapons, but very little study has been given to the distribution of their technical features, and this has encouraged me to investigate the problem anew. There are in the British Museum four specimens of this type of weapon (see Plate E). No. 2 is that illustrated by Edge Partington; Nos. 1 and 3 (B.M. Nos. 2006 and 2007 respectively) were early pieces in the Christy Collection and certainly acquired before 1868.

No. 1 consists of two shark teeth, each with three holes drilled in it and lashed to a three-ply hibiscus-fibre plait, which is folded into three over the length occupied by the teeth, leaving two loops for lashing and a 'tail' which passes through them and is drawn tight round the wrist or knuckles. The teeth are set between two of the cords with the third placed below them and are apparently bedded in a bark-cloth or hibiscus-fibre packing to secure rigidity. The lashing is of a fine two-ply twist, apparently

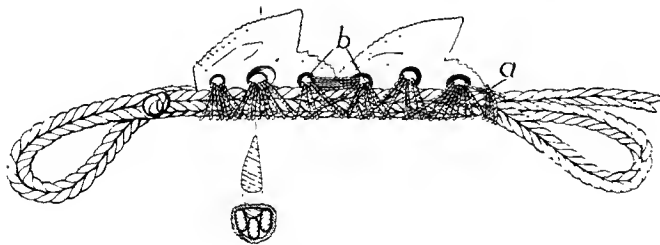


FIG. 1

of hibiscus fibre and comparable to that of the sewn type which is generally recognized as Hawaiian. There is a plain seizing round the string outside the two teeth (see fig. 1, a). The string then passes several times through each hole in the teeth, its loops being spread out fanwise round the foundation cord to give additional support. An interesting feature is that the two holes (b) drilled at the inner ends of the teeth are lashed together directly, while the basal angles of both teeth are ground off to form facets in a plane vertical to the foundation, so that adjacent teeth can butt up close to each other.

\* With Plate E and two text figures

No. 2 (see fig. 2) consists of three shark teeth, each with two holes drilled in it (with a metal drill, for the holes are parallel-sided and not hourglass-shaped), set in a five-ply coconut-fibre foundation cord, the tail of which is of five-ply hibiscus fibre grafted on to a main foundation cord. The end is folded back along itself to form a loop at one end. The teeth are set between the two cords and bedded into bark cloth or hibiscus fibre to secure rigidity. The lashing is of a fine two-ply twist as in No. 1, and the

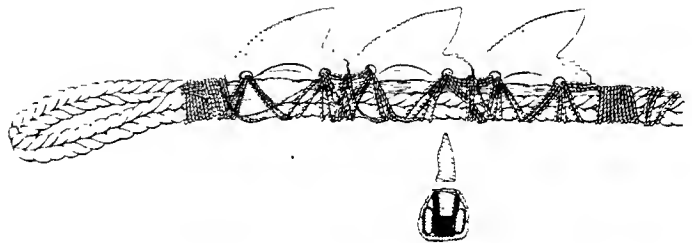


FIG. 2

technique is the same except that only two holes are bored in the teeth instead of three. There are also the same vertical facets in the teeth to enable them to butt up close together. The provenance is obviously the same as that of No. 1.

No. 3 does not merit detailed description. The same type of five-ply sennit braid is used as in No. 2, but this is doubled for its full length. Eight teeth are attached (four facing each way), and the teeth are mounted so that they rest on the top of the cord, not between; one is tied on with European string. The length between the teeth is such that it could not be drawn tight over the knuckles or wrist. This is probably a 'made-up' specimen.

In No. 4 three small shark teeth, with two holes each, are lashed to a three-ply fibre cord. The nature of the fibre is uncertain, but it resembles hibiscus. The cord is folded back on itself as in specimen No. 2 and seized with a thin twine except for the last three inches, where the close seizing is intermittent, though the twine is continuous. The teeth are lashed with this twine.

Both the essential form and the technique of Nos. 1 and 2 suggest a common origin although No. 1 has two loops to No. 2's one. The particular interest of No. 2 lies in the plaiting together of coconut fibre and hibiscus fibre, but the evidence of a metal drill implies a later date. The cord foundation part of No. 3 is obviously the same in technique as No. 2, though no definite deductions can be drawn from it because of its 'made-up' character. No. 4 strongly resembles No. 2 in form (though not in technique), and it is probable that all three come from the same locality.



Assuming, on technological grounds, that this is so, we must now try to isolate the specimens by finding a locality where all the techniques and materials are present. The use of hibiscus fibre (if the identification is correct) suggests Hawaii as the provenance and rules out Micronesia entirely. The two-ply hibiscus-like twist and the five-ply plait are also Hawaiian characteristics, although the five-ply plait is common in the Marquesas. There is nothing unique about the teeth or their method of drilling. The facets at the end of the teeth have no parallel in my knowledge of these weapons.

The only certain conclusion which it is safe to draw is that these specimens are not from Micronesia. Edge Partington's original attribution is probably right.

#### Note

<sup>1</sup> There has been long-standing confusion among anthropologists over the use of the word sennit (sometimes spelt sinnet, or in old works cynet). It was originally applied by sailors to plaiting (and is so alone defined by the O.E.D.), but has been taken by many anthropologists to refer to the material (coconut fibre) from which the plait is often made in Oceanic specimens. Edge Partington clearly used the word in this latter sense: I prefer to use it in the maritime sense, connoting the method of manufacture and not the material.

## THE WATERPROOFING OF A TEST SKULL AND MEASUREMENT OF ITS WATER CAPACITY

by

MIRIAM L. TILDESLEY

*Chairman of the Comité de Standardisation de la Technique anthropologique*

**55** Since the skull in its normal state is far from waterproof, the various substances used to measure its internal capacity have all been non-liquid. Mustard seed is the substance that has won its way into most general use; but whatever the granular substance used, one of two conditions must be fulfilled if it is to give a reliable result: its density in the skull must be constant and known, or else its average density in skull and in measuring cylinder must be known to agree. A constant density was the aim of Macdonell (1904) and his successors in the Biometric school, who calculate skull capacity from the weight of the mustard seed packed in. An equal average density in skull and cylinder is the objective of Breiting's technique (1936). Equal density in skull and cylinder is indeed presumed by all who measure the skull contents by their bulk. It is presumed properly, and indeed normally in the case of those who use mustard seed, only after testing and experiment have been used to ensure that cylinder reading and skull capacity tally.<sup>1</sup> Such tests require a waterproofed skull, or, rather, more than one, differing in size and shape. When the skull is completely filled with water and its contents poured into the measuring glass, then, if there is no change in water temperature, the water volume will be the same in both, unaffected by differences of internal shape and surface, by the height from which it is poured, the thickness of the stream, the amount of shaking and other factors which affect the density of a granular material. The reading given by the cylinder will then be the true skull capacity, assuming, of course, that the brain cavity was completely filled with water and that none was lost and none added in the course of transfer to the measuring glass. The present paper deals with the practical problems of proofing the test skull effectively and suitably, and ensuring that when it is filled no air pockets remain trapped in its recesses to reduce its water content.

Stewart (1934) described thus one method of proofing:

To make a skull watertight is a considerable task. In the present study the skull was first sectioned, all of the larger

foramina, except the foramen magnum, filled with plasticine, the inner surface painted with melted paraffin, and finally the two parts reunited with paraffin.

Having prepared ten skulls in this way in the United States National Museum, he used them to test a filling machine designed by M. S. Goldstein. The mechanical filling of the skull with mustard seed was followed by the mechanical packing of its contents into the cylinder, and the density was varied, by varying the size of the funnel outlet through which the seed passed into skull and cylinder, until the cylinder reading agreed with the skull's water capacity (seed density about 798 gm. per 1,000 c.c.). But the question still remained open whether the replacement of the irregular bone surface of the interior by a smooth wax surface affected the density of the seed thus packed in. As a control, therefore, he practised also a 'minimal packing' method of filling until he continued to get uniform results, again agreeing with the water capacity (seed density about 747 gm. per 1,000 c.c.).

The two methods thus far described . . . were next used on natural skulls of unknown capacity. The results differed astonishingly in every case, sometimes by as much as 50 c.c., and always the higher figure was obtained by the minimal packing method.

To further investigate the effect of surface on packing, five sectioned skulls were tested (table 4). With the two sections firmly fastened together, each skull was first tested in the natural state by the two methods; then . . . the internal surface was treated with talc, shellac or paraffin. [With paraffin the result was as before.] . . . No effect could be definitely established when talc was used in combination with shellac or celluloid, although it may possibly increase packing slightly when used alone. Single applications of shellac or celluloid do not form as thick a coating on the bone as in the case of paraffin, and to this fact is attributed the lesser effect upon packing. Nevertheless, had sufficient shellac or celluloid been applied, as when making a *crâne étalon*, it is believed that the effect would have been equal to that of paraffin. It seems likely, therefore, that all packing methods depending on standard skulls, however made, must give a considerable error when applied to natural skulls.

This melancholy conclusion, it may be noted, rests upon two assumptions: that the standard method so long sought<sup>2</sup>—one that will give reliable and comparable results in the hands of different observers—must involve tight packing (for he had already found that loose packing was unaffected by surface changes); and that the proofing of a test skull requires a thick layer of the proofing substance on its inner surface. If either of these is unnecessary the conclusion can be avoided.

Two years later Breitingger published his technique, and his packing was not tight. Nor was it so loose as Stewart's 'minimal,' being about 767 gm. per 1,000 c.c.

The technique was subjected to tests by Stewart (1937), who reported: 'I believe the results of these trials will convince almost everyone that, with the minor changes indicated, this method will yield satisfactory results even without personal instruction.' It was then studied and tested by two of us in this country (Tildesley and Datta-Majumder, 1944); we compared the available data concerning individual observational variability (as distinct from individual bias) in using Breitingger's technique with similar data regarding Macdonell's. The comparison suggested that the latter, which took twenty minutes per skull instead of five minutes, was also more variable in its results. Both were designed to eliminate individual bias, but in neither case was an adequate procedure worked out to ensure that the observer adopting the technique had achieved this, or would maintain it if achieved (and tests carried out by von Bonin, 1934, on Macdonell's technique had shown that differences of bias arose). These safeguards having now been added, we may hope that at last we have a good solution to the problem of filling. But as to the proofing of the test skulls necessary to the technique, we do not know whether a thick lining of paraffin wax or other substance would render them misleading guides or not: Stewart found that with a density of the order of 800 gm. per 1,000 c.c. it would; of the order of 750 gm. it would not; but what of the order of 770 gm.? To test this would involve much labour. It seemed better to consider other possibilities of proofing first; for if a thick lining is after all not necessary, the labour is avoided.

The method used by Mollison (1932) was as follows:

A strong skull with well preserved calvaria is, when quite dry, soaked in paraffin wax till the bone has absorbed all it can; it is then left to cool. The superfluous wax adhering to the surface is then scraped off with a wooden blade. This treatment closes all the small foramina in the bone and makes most of the sutures quite watertight. The openings in the base of the skull, at the back of the orbits and in the lamina cribrosa are closed with putty which is smoothed down. The putty should not, of course, project into the skull. It will be hard enough in a few days for the skull to be used. A skull thus preserved is not affected by being filled with water, and the process has this advantage over the former method of soaking in linseed oil, that one need not expect it to dry out gradually and cause the putty to shrink and crack easily.

Mollison does not say how hot he made the paraffin wax, but the mention of 'superfluous wax adhering to the surface' suggests that it was at any rate not very hot. Since 'superfluous wax' is to be avoided, I tried a modification of his method, and have to thank Mr. J. C. Trevor for

putting the resources of the Duckworth Laboratory, University Museum of Archaeology and Ethnology, Cambridge, at my disposal for this and for the subsequent experiment. He provided me with a strong skull with well-knit sutures, from which the face bones were then removed. Having first tried out the idea which Datta-Majumder and I had mooted in 1944 as a possible solution, and found it impossible, I immersed the skull in a pan of boiling paraffin wax, and kept it covered with the paraffin for some ten minutes or so; I then lifted it out, drained it, and left it to cool.

Only a very thin film of wax could be perceived on the outer surface, and the inner surface felt much as in the natural state; the effect on tight packing is likely to be no greater than Stewart found a single application of shellac or celluloid to have, and I cannot think there would be any effect on medium packing at all. None but the smallest foramina were closed by it, but proofing was easily completed by applying soft putty, provided by Mr. Trevor, to all other openings on the outside of the skull, including the sutures. Where water disclosed a small leak, this was easily closed by the putty. Time did not allow for it to be left to harden, as Mollison directs, but it was found possible to measure the water content without disturbing it. If the putty were coated later with something impervious to air and to the oil in the putty, the paraffin-soaked bone on the one side and the coating on the other should prevent it from drying out as Mollison describes.

Before leaving the subject of proofing, however, it should be recalled that Breitingger found the hydrocolloid substance (Negocoll) perfected by Poller still better than the wax and putty which his chief had used earlier in the manner described. Information concerning its properties and uses, as given by Breitingger (1936) and Schwarz (1929), is quoted at length by Tildesley and Datta-Majumder (1944). But this proprietary substance was not available at Cambridge; and until its availability is as widespread as that of putty and paraffin wax, many cranio-metrists will be glad to make use of the latter.

The next task was to measure the skull's water content. Three of us, Mr. Trevor, Dr. J. A. Keen of Cape Town University and myself, each filled a *crâne étalon* by pouring in water from a jug, the test skull in question being one that had come from the Biometric Laboratory of Karl Pearson and was marked 1,760 c.c. Filling the fore part of the skull first and taking all the usual precautions to avoid air pockets, we each in turn got 1,760 c.c. as its water capacity. And, as usual, there was no positive guarantee that we were quite right. Stewart (1934), after filling his prepared skulls with like care, found (? with a spectroscope) 'a few small air pockets . . . in the occipital region' and drilled small holes to allow the air to escape. To us it was not feasible either to detect or to disperse it thus. But another method was tried with what seems to have been complete success. A bucket, nearly full of water, was placed on a table so that the surface of the water was nearly on a level with the eyes of the seated observer. The fore part of the skull base was then let down into the water, basion being submerged and opisthion held as near the surface as

would permit one to see that the water line cut across the middle of the foramen magnum. The observer slowly revolved the skull about this water-line axis (having to rise gradually to a standing position in doing so) until it was base upward and the water had reached opisthion. It was then let down further into the bucket and tilted and turned in every direction that could enable trapped air to rise in bubbles through the foramen magnum; as it did. The skull was now raised, foramen horizontal; another person mopped up with a sponge the water in the inverted roofs of the orbits and elsewhere on the skull, and added a little to bring the water right up to the brim of the foramen magnum. The contents were poured into a measuring glass, through a funnel large enough to prevent spilling; and the reading was found to be 1,775 c.c. The process was repeated by Mr. Trevor and Dr. Keen, each getting this same value. By submerging the skull we had been able to tilt it to any extent necessary to let all air pockets out, without at the same time letting other air in. The problem was solved.

#### Notes

<sup>1</sup> One wonders if the presumption is ever tested by those of the French school who still follow Broca's practice of measuring capacity by lead shot. Dellenbach and Kaufmann (1941), finding that the mean values obtained for two skull series by shot and cylinder were from 57 to 95 c.c. higher than those calculated by the Lee-Pearson formulae, assume as a matter of course that these discrepancies must be laid at the door of the formulae. They make no tests of the shot technique; and this although the literature of the subject has from time to time expressed distrust of its accuracy ever since Emil Schmidt (1882) found the average capacity of three test skulls to be 80 c.c. more by shot than by water, and Sir Wm.

Turner (1884) estimated that shot gave a capacity 6.9 per cent. the higher. On a series measured recently an excess of 5.4 per cent was estimated by Hambly (1947).

<sup>2</sup> For reasons given elsewhere in Stewart's paper, mechanical filling with the Goldstein machine was found not to provide the answer to this problem.

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## "PYRAMIDS" IN THE UPPER NILE REGION

by

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**56** In the Nilotic area of the Southern Sudan there exist a number of mounds, rather loosely described as 'pyramids,' which have a ranging religious significance to the tribes who tend them. These mounds are built in the form of a cone, and the material used is, for the most part, cattle ashes, cattle dung, cotton soil, clay and debris. In all cases the tradition of their origin is of some great spiritual leader of surprising oracular powers who ordered its construction by the people as a monument to his name. Alternative tradition suggests that they are in fact the tombs of these men who were buried in or alongside them—often alive. The four such mounds of which I am aware are briefly described below: a more detailed account will be published shortly in *Sudan Notes and Records*.

1. *Pwom Ayeuil* ('the Mound of Ayeuil'), situated in the southern part of the island formed by the Bahr El Zeraf and the Bahr El Jebel and near to the banks of the former. This mound is certainly of Dinka origin and has no association with the Nuer tribes of the surrounding area who

occupied that country long after it was built. Its age is not easy to assess, but it was certainly in existence at the time when the Luac Dinka were in possession of the country, and there are some indications that it was built before their time. A rough approximation, based on a comparative analysis of age sets, generations and the maps of early travellers, of the date of the first Gawcir Nuer invasion, in which the Luac were driven across the river, is 1820. The pyramid is at any rate more than 150 years old. It is now very much weathered by years of heavy rain; it stands about 30 feet high, but was obviously much higher in its original form. To one side is the grave of Ayeuil Longar, a Dinka culture hero of widespread fame, and the reputed ancestor of the Ric, Dwor, Nyarraweng, Padang, Rut and Thor Dinka tribes. One version of the mythology connected with this mound suggests that it was built at the orders of Ayeuil Longar himself. The story tells of many years of toil, for which the reward of some people was death, their bodies adding to the rising edifice: another

version states that human bodies were used as props in the scaffolding, the persons chosen for this honour being buried alive. Some Dinka, however, say that it was built after Ayecuil's death. The mound remains a centre of great sanctity, but is no longer attended with communal gatherings and ritual operations like that in the Dunjol, described next.

2. The mound of Ayong Dit, known as *Yiek Ayong*. This is situated in Dunjol country north of Malakal and remains the central shrine of the Dinka of that area. The materials used in its construction are similar to those of Ayecuil's mound. Every eight years a ceremony known as *yairunka baiet* takes place, when the mound is repaired and

into fits of wild epileptic hysteria from which emerged prophecies of surprising accuracy, both became symbols of co-ordinated tribal resistance to foreign aggression. Gwek himself was killed in battle with Government forces beneath the mound in 1928. (See Coriat, 'Gwek the Witch-Doctor and the Pyramid of Dengkur,' *S.N.R.*, Vol. XXII, Part 2, and Alban, 'Gwek's Pipe and Pyramid,' *S.N.R.*, Vol. XXIII, Part 1.)

4. Professor Evans-Pritchard (*The Nuer*, 1940, p. 186) mentions another mound in eastern Jikany country. The sacred Mound of the Shilluk Kings at Fashoda suggests a similar concept, though of much earlier origin, but the

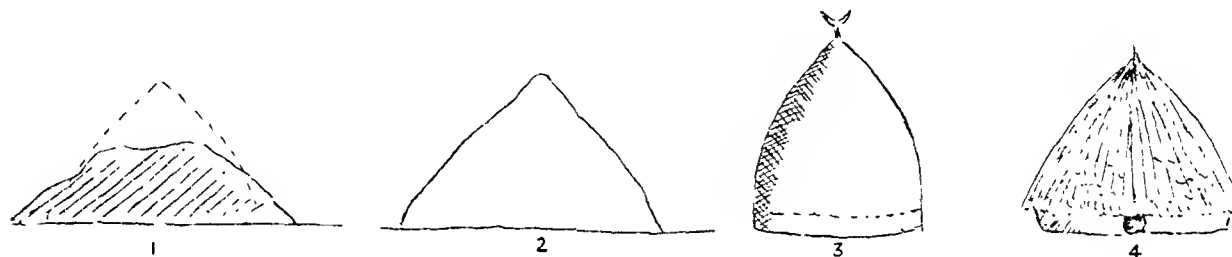


FIG. 1

1, Weathered form and probable original form of Ayecuil's mound; 2, sectional form of Ngundeng's mound; 3, Arab *gubba*; 4, Dinka cattle byre

cleaned and the people gather together for communal offerings to the spirit of Ayong Dit. A 'New Fire' ceremony is performed, at which eight bulls are sacrificed, and is said to bring fertility to women. According to local tradition the mound was built over the body of Ayong Dit, who, with his wife and eight bulls, was bricked up in their cattle byre by his express orders. This story is in general keeping with the Dinka form of 'king-killing.'

3. The mound of Ngundeng. This is of Nuer origin and more recent—it was built at the end of the last century—but the concept was undoubtedly borrowed from the Dinka. Ngundeng was a leader of great magical powers, through which he gained unusual authority over the Nuer of that area: he was thrown up like some dictator, in a time of great adversity, when the Nuer were facing the threat of foreign invasion, first by the Dervish and later by the present Government. He, and after him his son Gwek, who spent much time on the top of the mound and had an uncanny and much appreciated gift of throwing himself

mound is much larger and huts are built on the top. There may well be other mounds in the Nilotic area of which I am unaware.

The mythology associated with these mounds leaves us no clue to the origin of the conception and of the form they take. There is some contradiction in the stories also, for, as recorded above, it is suggested in some cases that they were built by the persons from whom they take their name, in others that they were built as monuments over the graves of these culture heroes. It might be argued that the concept at any rate is a legacy of past contact with Egyptian civilization through Nubia, an argument which I myself dismiss. Their form suggests some similarity with the Arab *gubba* or tomb, but also closely resembles the Nilotic cattle byre, and, considering the Nilotics' preoccupation with cattle, this origin is more likely; moreover, they are sometimes referred to as cattle byres. In that case, both the concept and the form may be of purely local and spontaneous origin.

## ROYAL ANTHROPOLOGICAL INSTITUTE PROCEEDINGS

**The Social Function of Anthropology.** *Summary of a Communication to the Institute by Professor E. O. James.* 3 February, 1948

57

The specifically scientific task of anthropology in its cultural aspects being to reveal the fundamental nature of human institutions and the structure of society, the practical application of anthropological data and methods in the solution of the problems amenable to this treatment now confronting the modern world is of paramount importance. While questions of origin, historical

development and culture contact cannot be ignored in the comparative study of civilization and the analysis of social mechanisms, at the moment it would seem that attention may be concentrated more profitably upon the part played by customs, beliefs, institutions and sanctions in the actual life of a community and its structural solidarity and continuity.

An examination of the function of myth and ritual in primitive society shows how these disciplines can be employed as integral elements in the complex system by which the members of a group

are enabled to live together in an orderly manner as an integrated entity. So far from being a passing phase in a social order rapidly becoming extinct, the phenomena represent a recurring feature whenever precarious conditions produce a sense of frustration and inability to cope with the prevailing situation by rational thought and conduct. Hence the persistence of the political myth and its associated ideology in the present troubled state of the modern world. The function of anthropology in this connexion is both negative and positive: it has (a) to dispel false conceptions underlying pseudo-scientific racial theories and economic dialectics, and the fallacious hypotheses on which they are based; and (b) to use its influence to promote psychological and cultural conditions in which this mythology does not readily find a place.

An examination of the basic principles of social organization and structure in primitive society shows that the core of all sound communal life is centred in a stable and harmonious family as the nucleus, and extended to the wider relations of the tribal fellowship, with their respective institutions and sanctions acting as a consolidating dynamic. Notwithstanding the difficulties of applying these principles to a complex modern community with its inevitable differentiation of functions, powers, status and responsibilities, they indicate the approach of anthropology to the problem and the contribution it can make towards its solution.

### The Prehistoric Cultures of the Zhob and the Indo-Iranian Connexion. By Colonel D. H. Gordon, D.S.O., O.B.E.

58 *Summary of a Communication to the Institute, 20 April, 1948*

The part of north-eastern Baluchistan known as the Zhob is potentially of the greatest importance to the solution of the problems of Indian prehistory. Among a number of sites containing the remains of early occupation, the most important are Rana Ghundai, near Loralai, Periano Ghundai, near Fort Sandeman, and Dabar Kot. These sites yield a vast range of painted pottery covering a considerable period of time, and they offer greater possibilities for bridging the gaps in our knowledge than any others yet found. The only attempt to produce stratified chronology at these sites is that of the late Brigadier E. J. Ross at Rana Ghundai, published in the *Journal of Near Eastern Studies* (Vol. V, No. 4, 1946), without which any study of the remains now available would have been mere conjecture. Assisted, however, by

this most important piece of work, a study of a considerable number of painted sherds, for the most part from Rana Ghundai and Periano Ghundai, gives an impression that there was an unbroken tradition of pottery painting from very remote times down to the early centuries of the Christian era. Pottery which was contemporary with the Amri, Harappa and Jhukar periods of the Indus Valley is indicated, also pre-Amri pottery. Pottery which may equate with Trihni ware is also distinguishable, and there are a number of late fabrics which may well serve to bridge the gap and link up with pottery identical with that assignable to the early historic period found throughout North-West India.

The cultures of the Zhob are as yet rather lacking in substance, being represented mainly by pottery types, but what we can observe indicates cultural movements from Iran. There is nothing to show that the so-called Harappa Culture of Harappa, Mohenjodaro and Chanhu-daro I passed this way. All the evidence so far is of peasant cultures of the Amri type, such as were succeeded in the Indus Valley by the full-fledged urban Harappa Culture, as witness the evidence of Dr. Mortimer Wheeler's recent excavations at Harappa. Such remains as there are of the Harappa Culture in the Zhob are due to the Harappan settlement at Dabar Kot. The Harappa Culture would appear to have arrived by sea, as it has none of the Iranian characteristics of the cultures of the Indo-Iranian border lands. The Quetta-Loralai-Kalat area received impulses from Iran probably *via* both the northern route, Kerman-Sistan-Kandahar, and the southern one, Bakun-Bampur-Kulli, over a very long period, down to the arrival of that cairn-burial folk whose remains are traceable from Chuga Kabud in Western Iran to Moghul Ghundai in the Zhob, and who also may help to fill the gaps in the history of the early centuries of the first millennium B.C. Periano Ghundai can be classed as a red ware area, but this is emphatically not the case with Rana Ghundai, Sur Jangal, Moghul Kila and other sites clustering round Loralai, where there is a great range of colour, quasi-buff wares being in great abundance.

Excavation is needed at Rana Ghundai, Periano Ghundai and Dabar Kot to clear up certain definite problems, such as the stratigraphical position of a painted grey ware, one of the few types which is common to all three sites. The present situation in Pakistan is such that there is small likelihood of such excavation being achieved in any but a remote and unpredictable future.

## REVIEWS

### GENERAL

**Freedom and Civilization.** By Bronislaw Malinowski. London (Allen and Unwin), 1947. Pp. xiv, 338. Price 16s.

59 Since the rise of National Socialism, Malinowski was a frank and active opponent, devoting especial attention to an analysis of war, and of 'chronic preparedness for war in the interests of war.' From his drafts and supplements this book has been completed by his widow. Though Malinowski did not live to see the collapse of the Nazi system, the whole of his argument remains applicable to any similar organization, present or past, and will be valued as a classical exposition of its theme: all the more cogent because it follows the problems of freedom and of civilization into those primitive societies which the author knew so intimately. It is, indeed, the application of fundamental anthropological research to practical life.

By freedom, it is here shown, is meant that a man may initiate and forecast a course of action, employ the relevant methods and means for its achievement, and himself benefit by its results. Its intimate relation is at once obvious to culture, which is the sum total of such projects, procedures, and fruition. Freedom has been interpreted in many ways, which are here compared and analysed. It does not, and

cannot, mean unlimited choice, for man exists only in society, and his desires and efforts, from infancy onwards, are controlled and modified by his association with other people. But it is a primary attribute of man, and every advance in the control of the surroundings is an enhancement of this primary freedom—the use of fire, the making of implements, the acquisition of a wider range of food and shelter. Freedom may be restricted by natural catastrophes, and also by deliberate restraints imposed by other men, either for the attainment of a wider freedom by concerted action under more intelligent direction, or for the personal advantage of those who achieve control of the means of culture and employ them to enforce their own desires and convenience.

All direction and co-ordination of projects and methods towards corporate benefits involves the conception of authority (p. 118), the power of taking initiative and making decisions, of controlling the instrumentalities and of distributing the results. In primitive societies, though there are arbitrary and oppressive individuals, there is little opportunity to misuse authority and ample safeguards against abuse among kinsmen and neighbours all habituated to traditional behaviour, which changes only rarely, slowly, and by all

but universal consent. As culture becomes more complex, a further safeguard results from the diversity of occupations, whereby a man has a wider choice of opportunities and comes under specific customs which are not applicable to all his tribe-mates, but affect his own relations to those others and to the society as a whole.

Similarly, the conceptions of value (p. 124) and ownership (p. 128) go back into animal behaviour; and values determine the whole course of human action, for they are the 'incentive to effort' (p. 132), with 'equivalence in utility' (p. 133), and are 'fundamental to order.' The way in which values are established is thus 'one of the main instalments in freedom or bondage' (p. 137).

Every man acquires in society, however simple, a 'second nature,' superimposed on his animal nature, a body of acquired responses under the impact of this 'cultural determinism.' The freedom of his tribal or national culture is conferred on him by education, whereby he learns to form his purposes, according to his natural equipment and predisposition. Here the variety of possible and recognized purposes offers more and more abundant choice, or freedom in action: with each stage of proficiency a man comes into fresh relations with other men, in age groups, craft groups, marriage and so forth. In primitive communities there is little or no restriction of choice or of access to training. Such restrictions follow the control of equipment and facilities by a group or class within the community, culminating in the resourceless condition of a slave or an 'unemployed' person, or the dependants of a centralized system of production.

Freedom consequently advances and widens through organization, so long as organization and its institutions contribute to the general good. This is a matter on which there has been much confused and prejudiced thinking. All institutions have their 'charter' which defines their aim, their mode of action and their function in producing results: it prescribes also the exercise of authority among its members and the controls incidental to the power which authority confers. The more numerous and clearly defined the charters and institutions, the more firmly knit is the whole society in mutual interest and support and the less liable to the dangers of concentrated power.

The institutions within a society confront us with the functions of law, from the 'natural' laws, which limit our modes of nutrition and progression, to the social observances within each tribal group, no less cogent in every activity and aspect of freedom, and most easily apprehended in the working of institutions. Here, however, appears a distinction between norms of conduct leading to the freedom of safety and efficient action, under normal conditions, and those uniformities of conduct imposed by authority and enforced by the exercise of power which are inspired by abnormal situations of which the most frequent and disastrous is the abuse of power for personal or partial ends. Or the crisis may result from the misuse of power elsewhere by an aggressor community, provoking counter-

measures of defence which, even if they are successful, offer all sorts of opportunities for misuse after the crisis is over. The test of a free culture is its provision for the avoidance of such crises, and in general for the control of power; and on the other hand, the most dangerous restrictions of freedom of culture result from limitations of access to authority and its instruments, the apparatus of power. Here arises the problem of discipline, superfluous while things go normally, but indispensable in a crisis, and liable to leave a disastrous aftermath.

In the modern world man's dependence on mechanical device (p. 215) raises special problems, when uniformity can only be secured by compulsion, and efficiency by the concentration of power. A conspicuous instance is the mechanical distribution of commands and of information, which can only be controlled by freedom of speech, and separation of propaganda from organization for violence. It is a special case of the same need for separation of the principal functions of authority which has already emerged in regard to institutions generally.

Malmowski's expert and sympathetic knowledge of early forms of society leads him to an important analysis of what he calls 'proto-democracy,' and to a comparison of this with the mature democracies of modern peoples. And this leads on to the fundamental distinction between the 'tribe-nation,' with uniform or kindred cultures and minimum occasion for the intervention of authority and its use of force, and the 'tribe-state,' in which, for whatever historical reason, authority furnished with force has become established at the expense of the autonomous institutions and their specific freedoms. There is here a *political* freedom, side by side with the cultural—economic, religious, artistic and the like—which is fundamental and needs the most constant vigilance; for it is concerned with the control of power. Under the given conditions of danger, power is indispensable, but it is itself a supreme danger.

These are outstanding points in a close-knit argument full of striking phrases and sidelights on current and historical problems. What is central is the demonstration of the relation between freedom and culture. 'Culture gives freedom to man in that it allows him to control his destinies' (p. 319); and 'freedom has been the prerequisite of all constructive work in the maintenance and development of culture' (p. 320). Freedom is an attribute of action; but all action is a temporary surrender of freedom. Such intrinsic restraints, however, are distinct from those imposed by the abuse of power. Where institutions discriminate, or enforce membership, freedom, though culturally established, is abrogated: 'freedom dies when human nature is denied to man' (p. 322). In a free state, therefore, authority exercises indirect rule, supervising institutional autonomy by legalized use of force (p. 328). And between free states the prevention and outlawry of war can only be effected by similar procedure within a commonwealth of peoples. 'The world must choose between a state of international anarchy or of international law' (p. 336).

JOHN L. MYRES

## AMERICA

**Medieval American Art.** By Pál Kelemen. New York, 1944; London (Macmillan), 1947. Vol. 1, pp. xiv, 414; Vol. 2, pp. 33, and 960 figs. on 306 plates. Price \$22.50

60 It is safe to say that the artistic achievements of the American Indians before Columbus are as yet insufficiently recognized by art historians. Archaeologists and 'Americanists' are aware of them but have, generally speaking, been less concerned with aesthetic values than with the problems of chronology and cultural relationships, of technology or functional interpretation. The general public, and students of art in particular, have hardly had a fair opportunity of assessing the aesthetic quality of the Amerindian arts in their full range and variety, and cannot be blamed for failing to realize the remarkable contribution which they have made to the sum total of man's artistic heritage. The archaeological literature is too scattered for easy reference by the non-specialist, and such popular expositions as T. A. Joyce's *Maya and Mexican Art* (now unfortunately out of print) or H. U. Doering's *Art of Ancient Peru* are restricted to their specific regions within the continent.

The need of a work of more generous dimensions has long been

felt and has at last, one may hope, been satisfied by Mr. Kelemen's splendid volumes, in which the author rightly claims to offer us, for the first time in a single work, a comprehensive panorama of pre-Columbian art in all its beauty and variety from Arizona to Peru. The effect of this large assemblage of carefully chosen illustrations is extremely impressive even to the specialist: to anyone unfamiliar with the subject it will be a revelation, and can be unreservedly commended to the notice of all lovers of art. They can hardly fail to be stimulated and delighted by the force and originality of the sculpture, the fine sense of design in the decorative work and the exquisite craftsmanship of individual pieces. Although the full significance of sculptures and paintings inspired by exotic and imperfectly understood religious ideas may elude us, their inherent artistic qualities are easily and universally appreciable. This is the more remarkable when we remember that the indigenous civilizations of America developed in complete isolation from those of the old world, and had no common ideologies or traditions.

The author is primarily an art historian. His long previous experience as a student of European and Oriental art enables him to



take a broad comparative view and gives authority to his aesthetic judgments. He has selected the subjects for his 960 illustrations with discrimination, and has in many instances photographed well-known pieces from some fresh aspect in order to emphasize special qualities of design or form. No doubt there are omissions from his gallery, which will be regretted by some; but with so wide a field of choice this is inevitable and one must concede that few, if any, of the illustrations fail to justify their inclusion. The subjects have been chosen from eighty-four museums and private collections in the United States, Mexico, Central and South America, and Europe; many of them are published here for the first time. In addition to these 'specimens,' there are fifty-six plates illustrating important monuments and architectural sites.

The illustrations occupy the whole of the second volume and form the core of the work. Ready reference is provided for, an excellent catalogue giving the source of each object; and a register of all the museums and collections from which the material has been drawn enables the reader to see at a glance the extent to which they have severally contributed. Naturally enough, American museums are the most numerous; but the British Museum is well represented, and Paris, Madrid, Vienna and Berlin have all made their contribution, though in the case of the last-named it is surprisingly small.

The first volume contains the text, in which the author gives a detailed description and analysis of each of the objects illustrated, mainly from an æsthetic point of view. Herein he breaks much new ground, although there is certainly an element of subjectivity in some of his interpretations. In some of the plates two or more objects have been grouped together for the purpose of comparing divergent stylistic treatments of similar themes.

The subject matter is arranged under the following headings, each of which forms the title of a separate chapter: architecture, sculpture, pottery, textiles, metalwork, jade and semi-precious stones, murals and manuscripts, miscellaneous arts, facets of daily life. Each chapter is furnished with its own introduction, and is subdivided into five regional groups proceeding from north to south, *viz.* Southwestern States, Mexico, Maya, Interlying Area (*i.e.* Honduras to Colombia) and Andean Area (chiefly Peru). This consistent arrangement is extremely convenient for reference. The designation 'Interlying Area' is perhaps open to the objection that it is not self-explanatory; but no suitable term is available to cover this area, unless one might speak of the 'Isthmian States.'

In two introductory chapters the author summarizes with admirable lucidity the unique position of pre-Columbian America in relation to world history, and the factors which determined the individual character of its art. These chapters supply just the kind of orientation that the general reader needs to enable him to enter intelligently into the novel field of experience that awaits him. In a concluding chapter the author discusses the vexed question of 'independent evolution' with reference to the development of American civilization. He lends no support to 'fantastic conjectures' of old-world connexions, and describes apparent similarities (or 'semblances,' as he calls them) as 'optical illusions.' In this he agrees with the authoritative opinion of most anthropologists.

Space forbids detailed discussion of individual pieces. But among the illustrations one might select a few for special commendation of their artistic merits. Such are the Aztec figure sculptures (Pl. 60, 61), Tarascan pottery figures (Pl. 112-115), painted pottery from Arizona (Pl. 102, 103) and Mimbres (Pl. 106, 107), from Coclé (Pl. 146, 147), Mochica portrait vases from Peru (Pl. 159, 160), Olmec jade figurines (Pl. 252*b*, 253*d*), and stone effigy pipes from Ohio mounds (Pl. 296). It is a pity that no reproductions in colour have been included. The beauty of the Peruvian textiles and featherwork, of the polychrome pottery from Coclé or Nasca, or of the mural paintings and codices of the Maya and Mexicans (to mention only a few examples) resides to a large extent in the gaiety and harmonious blending of their colours, and cannot be properly appreciated in monochrome.

A final point concerns the title of this work. It is true that the period of its subject matter corresponds broadly with the Middle Ages of the old world. There is also a kind of medieval—one might even say a Gothic—flavour about much early American art. Nevertheless, the term 'medieval' has become so charged with the

special implications of its European context that it cannot be transferred to a new one without doing some violence to established usage.

However that may be, there can be no difference of opinion as to the value of this outstanding contribution to American studies. It is unquestionably the best general introduction to the subject for the student of art, and will be found extremely useful as a work of reference by the specialist. It should find a place in every library and museum which is concerned with the history of art or of America.

H. J. BRAUNHOLTZ

### Indians before Columbus : Twenty Thousand Years of North American History revealed by Archeology.

**61** By Paul S. Martin, George I. Quimby and Donald Collier. Chicago Nat. Hist. Museum (University of Chicago Press); London (C.U.P.), 1947. Pp. xxiii, 582; 122 illus. and endpaper map. U.K. price 33s.

North American prehistory, extending from the close of the Pleistocene to the early nineteenth century A.D., presents a richly diversified field which is being worked by an energetic and constantly augmented body of archaeologists. The development of tree-ring dating has furnished a precision tool by means of which absolute chronology has already been carried back, in parts of the Southwest, to A.D. 217. Beyond that point in the Southwest, and throughout other areas, chronology remains largely relative and hypothetical; but overall correlation of the accumulated data has by now made possible the sketching in of some sort of continuum for human activity in the New World. In particular, the tentative bridging of the gap between the Folsom and the archaic cultures, through the Cochise and its apparent derivatives, represents a most important advance.

*Indians before Columbus* sets out to summarize the whole of this work for the layman and student beginner, omitting only the imperfectly investigated areas of northern Canada and the Middle Atlantic Seaboard. (The 'Columbus' of the title is a convenient expression for 'European disturbance,' since notable indigenous developments occurred, especially in the mound-building regions, well after 1492.) Part I is devoted to archaeological aims and methods, American Indian origins and popular fallacies; Part II to notes on techniques in stone, copper, bone, pottery and textiles, with a useful addendum on aboriginal trade; and Part III to the earliest horizons. In the succeeding chapters some 130 cultures or periods are separately described, and their arrangement in a four-page chronological chart is the principal feature of the brief 'Conclusion.' The catalogue of cultures is systematically arranged in tabular form, but is written in language which in striving for simplicity becomes unnecessarily repetitive and occasionally contradictory. Where the description of artifacts is supported by abundant illustration, as in the Southwestern chapters, the method itself is adequate; but for many areas (among them, disappointingly, those of the Mississippi drainage) illustration is scanty or absent and it is frequently difficult to appreciate the details of divergence between one culture and another. The authors have not succeeded in avoiding what they call 'arid reading,' and only the most devoted layman is likely to stay the course.

The introductory chapter on lithic techniques might have been much more satisfactory had the recent work of Knowles come to the authors' attention. The accompanying figure (5) has been copied from Holmes by an artist whose unfamiliarity with the subject has allowed him to alter details to the point of rendering it practically valueless. The metallurgical notes are better but deal only with copper; one would have welcomed some discussion of the work in silver and meteoric iron listed without comment under Hopewell and Dorset Eskimo respectively.

Withal, the book is of value in bringing together a mass of widely scattered information. The authors show commendable reserve towards claims for high antiquity, and indicate plainly what is conjectural. Sources are given at the foot of each section and the complete bibliography fills twenty pages. Much of the material used has been published during the war years, some as late as 1946. These references, in conjunction with the exhaustive index, will serve the professional anthropologist as an admirable directory to the original published work on any given area.

GEOFFREY TURNER



**An Album of Maya Architecture.** By Tatiana Proskouriakoff.

Publication 558, Carnegie Institution of Washington, 1946.

62 Pp. 135, 36 plates, map and 29 figs.

This is a beautiful book, with perspective drawings by the author of a selection of the most important Maya ruins as restored. The restorations have been made with caution, so as to be as accurate as possible, and the doubtful elements of the restoration are duly noted. The selection has been well done and is accompanied by a useful commentary. Miss Proskouriakoff has personally visited several of the sites. She traces by these examples the growth and progress of the architecture from the early buildings at Uaxactun through the 'Old Empire,' the cities of the Rio Bec area, the Puuc, Chenes, Uxmal and Chichen Itza. At the end is a very interesting discussion of Structure A—V at Uaxactun.

The commentary is instructive, especially the emphasis on the use of lime mortar by the Maya builders, which in fact made the structures into monoliths, and it is shown how this method of construction made what are called 'corbelled arches,' which were not really arches or, usually, corbelled, as the support of the weight was entirely due to the monolithic construction; and emphasis is also rightly laid on the divergence of the Maya methods of building from those of the Old World. Although the book is primarily intended to give a general idea of the subject to non-specialists and is easily understandable by anyone, yet the specialist will find the general résumé of the subject instructive and clarifying. One is glad to see that the author uses the Goodman-Thompson chronology and that the dating is everywhere accurate.

On more general questions the reviewer is in agreement with the author that the disappearance of the limited cultured ruling class is quite sufficient to account for the non-erection of monuments. One might add that a change of religious opinion might account for it; in both Afghanistan and Java there are many Buddhist remains, some of great size and beauty, but the present population of both countries is Mohammedan and has nothing to do with them. No theorist has ever found it necessary to attribute the disappearance of the ancient builders to migration, extermination or pestilence. A similar situation exists in Egypt and the Near East.

RICHARD C. E. LONG

**The Pueblo Indians of San Ildefonso.** By William Whitman. New York (Columbia Univ. Press); O.U.P., 1947. Pp. vii, 164.

63 Price \$2.75

The late Mr. Whitman and his wife paid four visits to San Ildefonso between 1936 and 1939, and at his death left an unfinished book which Mrs. Whitman has edited. The pueblo has only 128 inhabitants and the authors were able to get the life history of many of them, observing in detail their relations to one another and to society in general. The men cultivate, while the women follow what is, for them, the recently introduced occupation of making pottery for sale; this has made them less dependent on their husbands than formerly. The people are in general quiet, industrious and law-abiding, and keep themselves to themselves to a great extent in spite of the impact of civilization. Superficially Catholicized, they retain their earlier religion, but much of its ritual is kept secret. The pueblo is divided into two moieties, Summer and Winter. The latter is now much reduced, but formerly 'Winter Cacique' was in charge during the fall and winter; Summer Cacique during the spring, summer and early fall' (p. 12). RAGLAN

**Papago Indian Religion.** By Ruth M. Underhill. New York (Columbia University Press), 1946. Pp. vi, 359. Price \$4.50

64

Dr. Underhill has given us 336 pages of almost entirely unworked and uninterpreted field data. In that fact lies both the strength and the weakness of her book. The long description of rites, for the most part taken from informants, and the long transcriptions of Papago ritual poetry and song fit into the scheme of the workers in the American Southwest who follow in the shoes of Elsie Clews Parsons, and will be useful to them for tracing the diffusion of traits, ceremonies and song motifs throughout the Arizona—New—Mexico—Sonora area. The gravest fault of the book as ethnology is that the time factor is not clearly delimited. Practices of over half a century ago are inextricably intermingled with the

ceremonies and rituals which the author saw in Papagueria in the early nineteen-thirties.

To the social anthropologist there are the merest glimpses of unexplored social structure: at least once in almost all the rituals each individual mutters the term of his kinship to the ceremonial leader or to his neighbour. There are a few allusions to curing by the power of children, known to be important among Papago, but nowhere is there any hint that this subject might be profitably investigated as anything but an aspect of the ceremony itself. The final chapter, labelled 'Acculturation,' is entirely inadequate for a study of culture contact: there for the first time the author mentions the Catholic tradition which dates back 300 years. In two final paragraphs she dismisses the one-room Presbyterian churches—many with native ministers—which dot the reservation.

As it is presented, then, the book is of little interest to anyone not concerned with and already versed in Southwestern ethnology, to which it is a contribution concerning an easily accessible but little-known people.

PAUL J. BOHANNAN

**Santa Eulalia: The Religion of a Cuchumatán Indian Town.**

By Oliver La Farge. Univ. of Chicago Publ. Anthropol., Ethnological Series. Univ. of Chicago Press; C.U.P., 1947. Pp. xix, 211. 28 illus. 2 endpaper maps and bibl. Price 22s. 6d.

*Santa Eulalia* is a study of a Mayan community in the Cuchumatán highlands of Guatemala. La Farge gathered the material for the book in 1932 when he spent about six months in the town with his assistant, Dozier. He therefore describes the community as it was before roads had been built into the area. Ladino influence was already marked throughout the economic aspect of life, but the Kanjobal-speaking Indians, who outnumbered the Ladino in the town, still retained a distinctive culture which La Farge calls 'Recent Indian.' This he defines as a 'stabilized culture evolved during the last three centuries' from Maya and Spanish Colonial elements. The composite origin of the cultures is clearly apparent in the religious life of the town. According to La Farge—

The form and some of the content of Christianity have been grafted upon a fundamentally Indian religious philosophy, and a vast body of survivals has been brought under the sanction of the Christian God. . . . The resultant mixture is known to the Indians as 'Christianity.' In their view the Ladinos and even the priests possess an incomplete religion, lacking the vital elements known by them under the general term of *costumbre*—'the custom,' the ways of doing peculiar to them—and always involving elements not found in orthodox Christian practices.

This religion is supported by a body of myth of an equally composite nature.

The reviewer is no specialist in Mayan matters, and cannot criticize the book from this angle. The student of culture change will find much to interest him in the synthesis of Christian and Maya elements into a complex whole which finds its expression in the private worship of the family and in the 'public' worship of what La Farge refers to as 'the religious administration.' This public worship is an esoteric one carried out by officials chosen by the principal leaders of the town. It is concerned principally with the agricultural cycle and with the well-being of the crops, though it functions also on ritual occasions derived from the Christian calendar. La Farge has some interesting speculations as to the origin of this religious officialdom which parallels closely the secular administration of the town. In view of the esoteric nature of both the organization and its activities, from which even the ordinary Indian is excluded, the gaps in the description of the rituals performed and of their symbolism are not surprising. The information on the family ritual is fuller, but it is regrettable that more attention was not paid to the social organization at the familial level, since upon this hinges an understanding of the ritual itself.

Of particular interest is the survival of the old Maya calendar among both laymen and ritual leaders. Both the *tonalamatl* and the *haab* are in use, though the latter seems to be disappearing. Already it is impossible to obtain a complete list of *uinals* from Kanjobal informants. *Santa Eulalia* contains a good description of the

functioning of the calendar both for the ordinary layman and for the members of the 'religious administration.'

An admirable feature is the careful documentation given by La Farge of his own role in the community and of the methods he used in obtaining his data, as well as the description of the principal informants and evaluation of their reliability. He has been careful to indicate where he was unable to obtain full descriptions and where his data may be unreliable. ELIZABETH COLSON

**Ozark Superstitions.** By Vance Randolph. New York (Columbia Univ. Press.) and O.U.P., 1947. Pp. viii, 367

**66** The Ozark Mountains are a tract of high ground some 300 miles long running across southern Missouri and north-western Arkansas. The inhabitants, who migrated from the Southern Appalachians at the beginning of the nineteenth century, 'have often been described as the most superstitious people in America.' They have had little contact with the Negroes and not much more with the Indians, and it seems that their superstitions, like themselves, are almost all of British origin. They are in general those of the English countryside, but many beliefs there obsolete or obsolescent are in the Ozarks still part of the current folklore.

The author gives many examples of all types: folk remedies, weather and love charms and omens, birth and death customs, witchcraft, ghost stories, etc. He is an expert in his subject, and the book, apart from the interest of its matter, is very pleasantly written. RAGLAN

**Black Metropolis.** By Horace R. Gayton and St. Clair Drake. London (Cape), 1946. Pp. 796 and Index. Price 18s.

**67** For those who see the 'Negro problem' in the United States mainly as a function of the wider economic and industrial forces shaping American society, this should be a most interesting and valuable book. It provides, in the first place, a sociological study of the Negro community of Chicago as a fairly discrete and compact entity. At the same time, it brings out very clearly the close relation of Negro social organization to the structure of the 'greater' American society, in terms, for example, of the social class system. It shows how, while sharing and responding to similar social values and incentives to those of the white people, the Negroes have also developed distinctive cultural patterns of their own. Some of the most significant of these are racist. In the period

between the two wars, Negroes in 'Black Metropolis' have become increasingly race-conscious, alive to the achievements of individual Negroes, and have taken an absorbing interest in every scrap of evidence that the 'race' is 'catching up with white folks.' Both the Negro newspaper and the Negro church are expected to play their part. For example, Negro Baptists think of their organization as a 'Race' church, and their leaders concern themselves with such things as equal economic opportunity as well as 'serving the Lord.'

Perhaps the most important consideration brought out by *Black Metropolis* is the underlying conflict in the wider context between two apparently opposable sociological processes. On the one hand is the almost solid wall of social and economic group rivalry and prejudice which segregates the coloured people from white society; on the other is the recruitment of Negro workers into the labour unions of the basic industries, and the education of white workers to accept them. With the latter process go the symbols and slogans of the class struggle, giving doctrinal support for Negro-white co-operation against the 'bosses.' Moreover, the fact that labour unions are not concerned entirely with economic problems means that Negroes participate in social events with white workers. Today the presence of Negroes at a union dance or party is not a matter for remark except in special situations. This point is particularly significant in view of the fact that Negroes in America are becoming a city people; and, as the authors suggest, it may be in the urban arena that the whole problem is finally settled.

In addition to the wider and more theoretical issues which arise from their study, Gayton and Drake provide further and interesting information and documentation on such questions as 'passing,' and Negro roles in modern American life. Their description of segregative factors and processes is also worthy of attention, and may strike a chord in the minds of English readers familiar with the Negro community in Cardiff, whose geographical isolation and compactness is very reminiscent, on a much smaller scale, of 'Black Metropolis.' Following Park and Burgess' well-known theory of city growth, the authors show that in Chicago the Negroes have followed the customary pattern of settlement and resettlement, but with one important reservation: they are not absorbed in the general population; instead, they constitute almost a 'city within a city,' reflecting within itself the main cross-currents of life outside.

The study is concluded by a short methodological note by Professor Lloyd Warner. K. L. LITTLE

## EUROPE

**Negroes in Britain.** By K. L. Little. London (Kegan Paul), 1948. Pp. xiii, 292. Price 25s.

**68** This book is in two parts. The first is a study of the London Square district of Cardiff, in which live some 3,000 non-Europeans, mostly Negroes and Arabs, many of them with white wives and half-caste children. Dr. Little describes at length the history, composition, social life and relations with the white population of this remarkable community.

In the second part he traces the history of colour prejudice in this country. It seems that in the eighteenth century Negroes and other coloured persons were generally regarded with friendly tolerance, and that those who had sufficient education were admitted to friendship with educated Englishmen. During the nineteenth century matters changed slowly but steadily for the worse, and Dr. Little traces the causes of this change. There is, however, one cause which he has not noted—purdah. Among upper-class Hindus and Muslims there is no social intercourse as understood in Europe. Since reciprocal hospitality is out of the question, European families in purdah areas are compelled to form closed groups, and women who have lived in such groups return home to perpetuate the idea of social cleavage between white and coloured.

In the last chapters he gives many examples of the attitude of Britons to coloured people, and of the reactions of the latter to their treatment. It seems, oddly enough, that colour prejudice is stronger in London than in other parts of England, and stronger in England than in Scotland or Wales. To this, however, it seems from Part I

that Cardiff is an exception, for there the colour bar is a very strong one.

The book is admirably written, and should be read by all who are interested in the questions with which it deals. RAGLAN

**Medieval Castles in North Wales: A Study of Sites, Water Supply and Building Stones.** By E. Neaveison. University Press of Liverpool: London (Hodder and Stoughton), 1947. Pp. vi, 54. Price 6s

**69** Dr. Neaveison has prefaced this study of the castles of North Wales with two chapters on the geological features of North Wales and the Cheshire borderland. The remaining four chapters are devoted to Castle Mounds without buildings, the early English Stone Castles, the Welsh Stone Castles and the Castles of Edward I. The author rightly stresses that the distribution of Norman castles is limited in general by the presence of drift deposits, that the early English stone castles—Dyserth, Holt, Ruthin, Hawarden, Caer-gwrle, Denbigh—stand on conspicuous hills, and that the Welsh-built castles—Dolwyddelan, Dolbadarn, Ewloe, Degannwy, Dinas Brân, Carudochan and Criccieth—are placed on small rocky hilltops in the less accessible areas of North Wales. No such broad generalization can, of course, be made for the siting of the castles of Edward I, except that they were placed 'at intervals around the coast' from Flint to Harlech.

One fact of superlative importance in Welsh architectural history emerges from this study: it is that almost without exception the

materials used were of local origin, e.g. Dolwyddelan, 'almost entirely of local material'; Ewloe from sandstone from local outcrops, the mortar of sand 'probably brought from the Dee estuary'; Dinas Brân, 'of the mudstone which forms the site'; Criccieth, of the local felsite; Conway, of the grit 'that forms the ridge on which the castle stands'; Harlech, of stone 'quarried in the vicinity of the castle,' etc.

Dr. Neaverson's detailed research proves (if proof were, indeed, necessary) the importance of full co-operation between archaeologists, historians and geologists. It is also a healthy antidote to the recent strange tendency amongst some theorists to maintain that local materials have little to do with early building. I trust that Dr. Neaverson will follow up this admirable work with the publication of a lithological survey of North Wales from the point of view of building materials in general.

IORWERTH C. PEATE

**British Fairy Origins.** By Lewis Spence. London (Watts & Co.), 1946. Pp. ix, 206, bibliography. Price 10s. 6d.

**70** Mr. Spence here discusses the various theories which have been put forward as to the origin of the belief in fairies. There are chapters on fairies as spirits of the dead, as ancestors, as elementary spirits, as gods, as totems and as aborigines. The conclusion he arrives at, with some qualifications, is that fairies are spirits of the dead.

The author is extremely well read in his subject, and the book is a very useful guide to the literature, but it could be much improved by careful revision. There are many repetitions and circumlocutions, and some inconsistencies. For example, the word *sidhe* is discussed or defined on at least seventeen pages, though there are only three references in the index. We are told that the word means hill, dwelling within a hill, fairy, deified mortal, ghost of the dead, and being between spirits and men; that the *sidhe* are always young, and that they are like mortals but more beautiful. It is possible that the word has had all these meanings at various times and places, but that

is not what the author implies; each definition is given as if it were exclusive.

RAGLAN

**Die Schweiz zur Rentierzeit.** By Hans-Georg Bandi. Frauenfeld (Verlag Huber), 1947. Pp. 217. Text illustrations, 16 plates, map

**71** For English prehistorians the interest of this work is, frankly, confined almost entirely to the fifty or more pages of descriptions of Swiss cave sites towards the end of the book. And even these, useful as they are, would have been still more welcome if we had been given definite sections. There are some excellent reproductions of 'home' art from one or two sites in the earlier part of the book and some very good photographs, but for the most part the author is concerned to give a general picture of the life and times when Magdalenian man roamed about Switzerland. It is a very readable account and pleasantly written, but is clearly intended more for the intelligent reader than for the specialist student; and such works do exist in English, though they cover perhaps a wider field. But the topographical accounts of the cave sites will always be useful, especially as a full bibliography is appended in each case. The work is dedicated to my old friend and colleague the late Dr. Obermaier, and throughout bears witness to his inspiration.

MILES C. BURKITT

**Le Métopisme chez les Roumains et en général.** By Fr. J. Rainer and Al. Tudor. Academia Română, 1946. Pp. 35

**72** and tables  
The late Professor Rainer (1874-1944) was Director of Studies in Anatomy and Anthropology in the University of Bucarest. His contributions to science, chiefly anatomical, have been reprinted in memorial volumes, and one of them, of special interest to anthropologists, studies some features accompanying metopism and concludes that metopic skulls tend thereby to become a little broader and to increase slightly in volume.

H. J. FLEURE

## CORRESPONDENCE

### Fragments of Prehistoric Egyptian Pottery

**73** SIR,—The Institute of Archaeology (University of London) recently acquired a few prehistoric Egyptian antiquities formerly in the collection of the late Professor Seligman. Among them were two sherds which seemed to me interesting enough to be made known to a wider circle of those interested in the

prehistory of Ancient Egypt, and at the suggestion of Professor Childe I now submit a brief description of them.

The larger of the two sherds (fig. 1) is of unknown provenance. It is a nearly complete bowl of the 'white-cross-lined' ware; the pinkish colour used for the painting establishes that the pot does not come from Petrie's famous excavation at Naqada. Its diameter is 14 centimetres and its height about 5.5 centimetres. Its shape and pattern are similar to those of Petrie's Corpus C 35, but with a difference, for though our pot has the same three cross-lined triangles suspended by their bases from the rim of the pot, the pattern which fills the intervals between them is quite unique. In the bottom of the bowl are two concentric circles, the inner of them containing two sets of superimposed triangles, the points of which nearly meet in the middle. From the outer circle emerge three 'harpoons,' each tied to it by a wavy triple cord. To alleviate the rigidity of the geometric pattern the artist painting the vessel has put one harpoon in one of the intervals between the cross-hatched triangles, and the other two in the next, leaving the third empty. This is a device typical of the prehistoric art of Egypt. The geometric patterns were a fashion which she had received from the flourishing cultures of Western Asia, but with which she never felt really at home. Quite a few, therefore, of the most stiffly geometrical patterns found on prehistoric pottery have been disturbed by some little irregularity which upsets the original design. The concentric circles in the middle of our bowl seem to represent an appliance by which the harpoons were fixed to the ground so that the hunted animal could not escape with the harpoon. We find a similar apparatus depicted on a white-cross-lined bowl found by Ayrton and Loat at Abydos (*Pre-Dynastic Cemetery at El Mahasna*, Pl. 27, 13), with two harpooned hippopotami each fixed by the cord of the harpoon to the outer of two concentric circles. It would be interesting to know whether any such device is known to be in use among modern primitive people.



FIG. 1. WHITE-CROSS-LINED BOWL (DIAMETER FOURTEEN CENTIMETRES)

University of London, Institute of Archaeology

The other sherd (fig. 2a) is of the 'decorated' ware and, according to the number on the inside, was found in tomb 1766 at Naqada. It is published in *Naqada and Ballas* (Pl. 33, 15) and *Corpus* (Pl. 31, 13 W). It is of hard buff clay and, as the striation on the inside shows, turned on a slow wheel. The decoration which covers the two horizontally pierced lug handles and was four times repeated is composed of cross-hatched vertical stripes. The sherd now in the Institute of Archaeology is about one-third of the vase, and is about 2 inches high and 1.4 inches wide. Another third of the same vase is in the Ashmolean Museum, Oxford, and is, with the kind permission of the Keeper, Mr. D. B. Harden, included in fig. 2. It is, of course, possible that the sherds do not come from a single barrel-shaped vase, but from a double pot like the one in *Corpus*, D 14 G, but the sherds show no indication of it and, judging by the photograph, seem to make up one upper part (I have not had a chance to put the originals together). What makes the remnants of this decorated vase so interesting is that Petrie's sequence dated the tomb from which they come to S.D. 31, the beginning of the Naqada I period (Amratian), in spite of its being of the decorated ware which is characteristic of the Naqada II period. Petrie assigns two of the decorated vases to this early period, namely this pot and the one in *Corpus*, D 10 G, which comes from tomb 1449 at Naqada. I have dealt with this

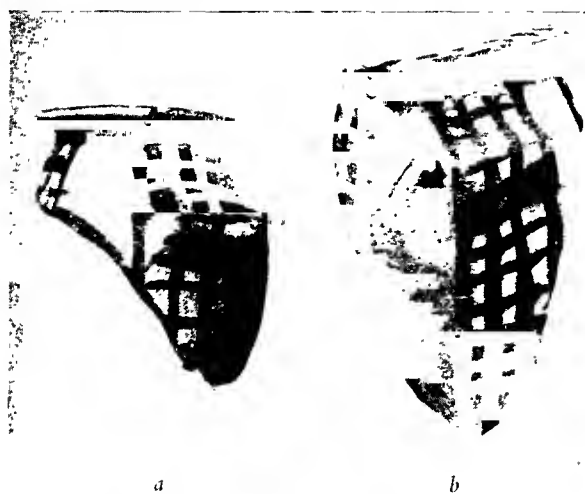


FIG. 2. TWO POTSHERDS FROM NAQADA

- a) University of London, Institute of Archaeology (height two inches);  
 (b) Ashmolean Museum, Oxford

important tomb in *The Cultures of Prehistoric Egypt* (pp. 30ff.); it also contained two bowls of the white-cross-lined ware, and a vase with a relief of the fertility goddess. Petrie takes these early decorated pots to be importations 'from an adjoining region' (*Prehistoric Egypt*, p. 16); unfortunately, they have never been found in Naqada I surroundings outside Upper Egypt. Thus they must have come not from adjoining regions but from farther afield. The tomb may, of course, be somewhat later than Petrie assumed, yet the rest of its contents, the two cross-lined vases, etc., speak strongly for its being of Naqada I, even though perhaps rather towards the end of that period—the first sign of a contact with a culture which later on became dominant in Europe.

From tomb 1766, unfortunately, I could not trace anything but the two sherds of one vase in fig. 2. There is nothing further to explain the early date which Petrie ascribes to them. It would therefore be of great interest to know of any other antiquity coming from tomb 1766 at Naqada. Such pieces could be recognized by the number written on them either in Indian ink or in pencil. I should be grateful for any information.

ELISE J. BAUMGARTEL

# 'Ghost Marriages.' Cf. MAN, 1947, 108

**74** SIR,—In her review of Professor Evans-Pritchard's paper on 'Some Aspects of Marriage and the Family among the Nuer,' Dr. A. I. Richards suggests correlations between the anomalous marriages of the Nuer and the tribal dogma of procreation and descent, the form of the ancestral cult, fixity of succession rules and type of economic transaction at marriage.

It is interesting for comparative purposes to recall that in classical Greece a kind of 'ghost marriage,' namely the marriage to an *epikleros* or heiress to an ancestral estate, was obligatory on the next of kin to her father, and that the idea that it was a disaster for a man to die without leaving a son behind was deeply ingrained in Greek thought (Seebohm, *On the Structure of Greek Tribal Society*, 1895, Chapter II). In this case the context is one of a highly civilized society with a monetary economy, and the object was, apart from the performance of religious rites for the deceased 'father,' the inheritance of the land rather than of cattle. That the institution does date back to a time when Dr. Richards' correlations obtained in Greek society is made likely by the myths of Perseus, whose archaeological correlation is given by the 'squatters' level' at Tarsus (*Am. J. Arch.*, XLI (1937), p. 283) and so datable c. 1190–1150 B.C. Perseus himself was the son of an only daughter by either a god or her father's brother, and he succeeded his mother's father; he also married an only daughter and his eldest son was left behind to succeed his mother's father when Perseus took up his own inheritance. References to brideprice being paid in cattle are found, for example, in the myth of Iphiclus and Melampus and in the Homeric epos, where 'maidens were those who bring cattle' (Keller, *Homeric Society*, 1902).

However, the regular occurrence of *epikleros* marriages at the height of Greek civilization (Pericles' marriage is suspected to have been to an *epikleros*, and she left him when the object was well and truly achieved and she had borne two sons—see A. R. Burn, *Pericles and Athens*, forthcoming) suggests a further correlation, to which the others may be subordinate: namely, with the earlier stages of the accumulation of private wealth. So long as there were no substantial legacies, the problem of finding an heir to a childless man or woman was hardly of compelling urgency; and it is well known that personal weapons and ornaments were simply rendered useless and placed with the deceased in his grave. Even when movable property had already accumulated to form a considerable wealth, this custom endured in many societies, with such absurd results as the slaying of whole herds of cattle and even slaves, including wives, for burial with their dead master (Childe, *Scotland before the Scots*, 1946) (such burials are eloquent testimony to the enormous price that humanity has to pay for every improvement in its condition). With land this could, of course, not be done at all. In such circumstances the introduction of some form of 'ghost marriage,' especially with a close relative of the deceased, which is quite in keeping with the essentially tribal conception of classificatory relationship, would prove a ready way out of a dilemma and remove a considerable obstacle to further civilization. The substitution of such a relative for the heir would tend to destroy the title by making the property revert from the late owner's family to the wider circle of relatives from which precisely it was to be emancipated (this still happens among some of the Nagas of Assam). The substitution of a relative for the deceased, on the contrary, does not, of course, transfer to the substitute the title of the legacy.

Thus the *epikleros* and similar marriages effectively prevent any re-diffusion of the property back to some form of communal property, say of the clan or lineage. They may be expected to occur where tribal traditions are still sufficiently strong to make such a danger real, say in the later stages of tribal society and in the earliest civilizations, until such time as a new legal and moral code, such as the Roman-Christian, supersedes these traditions.

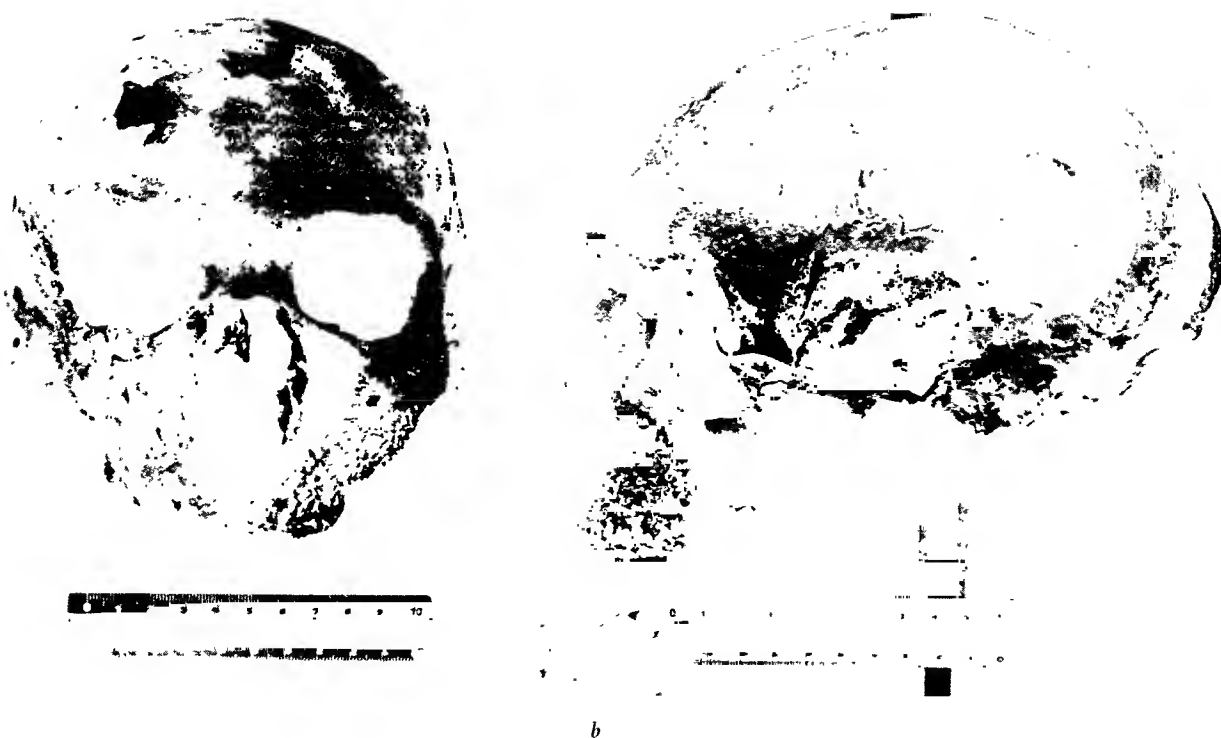
London

BARBARA RUHEMANN





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# THE PALÆANTHROPI IN ITALY

(a) The Saccopastore I skull; (b) the Circeo I skull

*Photographs by Sergio Sergi*

# THE PALÆANTHROPI IN ITALY: THE FOSSIL MEN OF SACCOPASTORE AND CIRCEO

## PART I: INTRODUCTION AND DESCRIPTION\*

by

PROFESSOR SERGIO SERGI

University of Rome

**75** The earliest traces of man in Italy are denoted by the presence of Abbevillian and Acheulian handaxes in Lower Pleistocene formations. The discoveries of an Abbevillian handaxe by G. A. Blanc on the Via Flaminia, near the Ponte Milvio, and of a flake of Clactonian technique by A. C. Blanc also close to the Via Flaminia, at one of the gates of Rome itself, have shown that Latium was inhabited during the most ancient phases of the Quaternary. We are ignorant of the physical features of the men of that time, since we possess none of their skeletal remains. They may have been the Protanthropi of Italy, but we are unable to say whether or not they were similar to the other European Protanthropi, e.g. Heidelberg, of whom we still lack precise and detailed knowledge.

The Mousterian industry had a wide distribution over the Italian peninsula in the Middle Pleistocene. Just a century ago, in 1846, the occurrence of Mousterian flint implements accompanying the remains of large extinct mammals in alluvial deposits along the Tiber was recorded by Ceselli of Rome. His claims were rejected, however, until the finds at Saccopastore indicated that the Palæanthropi<sup>1</sup> of Latium were the makers of Mousterian implements. In 1929 a cranium (Saccopastore I) was excavated in a gravel pit near the Ponte Nomentano, three kilometres from the Porta Pia. In 1935 the fragments of a second skull (Saccopastore II) were brought to light at the same place by A. C. Blanc and the Abbé Breuil. In 1939 A. C. Blanc discovered a cranium (Circeo I) in a cave on Monte Circeo,<sup>2</sup> and later a mandible belonging to another individual (Circeo II) was found there.

Saccopastore I was found with bones of *Hippopotamus major*, *Rhinoceros mercki*, *Elephas antiquus* and other mammals, some of which bore signs of intentional fracture. The site is characterized by gravel and sand of fluvio-lacustrine origin, rich in volcanic elements and dating from the period when the lower Tiber valley was in process of assuming its present appearance. Thus stratigraphically the specimen may be assigned to the Riss-Würm interglacial. Apart from the absence of the lower jaw, the skull (see Plate F, a) was recovered in a relatively complete state, though the orbital margins and the supraorbital region are damaged and the zygomatic arches destroyed. Judging from the degree of sutural ossification and the dentition, I assign it to a subject aged about thirty and of the female sex.

\* With Plate F and two text figures. Communicated to the Royal Anthropological Institute, 17 April, 1946. Part II (Discussion and Interpretation) will appear in the July issue.

The cranial capacity is small, certainly less than 1200 c.c., and the form mesocephalic, bordering on the limit of brachycephaly. The basi-bregmatic height (109 mm.) is one of the lowest so far known. The frontal torus is very prominent at the sides but appears to have been little marked towards the centre. There is a cluster of supernumerary ossicles at the lambda. The depression on the internal surface corresponding to the third frontal convolution is greatly accentuated on the left-hand side, which suggests a particular development of the cerebral region associated with articulate speech. The position and slope of the foramen magnum are such that the head must have been held erect as it is in present-day man. As the result of his faulty reconstruction of the base of the La Chapelle skull, Boule has affirmed that the Neanderthals had their heads slightly thrust forward. In respect of the foramen magnum, however, Saccopastore I bears a close resemblance to the La Ferrassie and Gibraltar specimens, which I have been able to study, thanks to the kindness of the late Professor Boule and Sir Arthur Keith, respectively. The face is large and high and the orbits are of considerable size. The nasal aperture is wide and low, the maxillæ project in the form of a wedge and the extensive alveolar arcade is shaped like a horseshoe. Of the Neanderthalian skulls, that from Gibraltar, found in 1848, most nearly approaches Saccopastore I in its dimensions and general and special morphology.

Saccopastore II (see figs. 1 and 2) was collected in fragments embedded in rock. As reconstructed by me, it comprises part of the left and almost all the right half of the upper facial skeleton, together with the zygomatic arch, the supraorbital torus, the temporal and a portion of the sphenoid on the more complete side. From a comparison with Saccopastore I, we can accept it as belonging to an adult male. It is markedly narrower than Circeo in the lower temporo-occipital region, and at this level the transverse diameters are close to those of Saccopastore I and Gibraltar. The capacity may be taken as not more than 1300 c.c. In the totality of its characters Saccopastore II bears a strong resemblance to Saccopastore I. As regards the flexion of the base, the form of the alveolar arch, the pronounced height of the palatine vault and the orbital index, the two specimens are extremely similar. The face of Saccopastore II is leptoprosopic and orthognathous and the nasal breadth slightly larger than that of Saccopastore I.

In the spring of 1936, on the initiative of the Italian Institute of Human Palæontology and with the co-operation



of the Institute of Anthropology of the University of Rome, an excavation was started in the Saccopastore gravel pit. At the level where the second skull was found there occurred flint and jasper implements of typical Mousterian technique, together with fossil fauna and flora indicating a terminal phase of the last interglacial. At



FIG. 1. THE SACCOPASTORE II SKULL (FRONTAL VIEW)

that remote period the men of Saccopastore were sheltering in caves at the foot of the mountains facing the valley of the Tiber, where a hundred thousand years later Rome was to rise.

The first Circeo specimen (Plate F, b) was discovered in

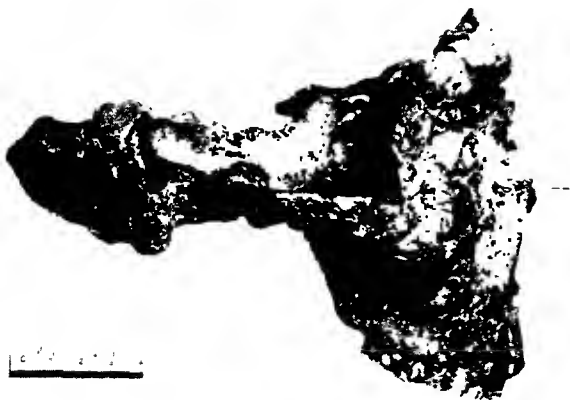


FIG. 2. THE SACCOPASTORE II SKULL (PROFILE)

a cave whose entrance had been closed by a landslip in Mousterian times. The cave floor was in the same state as it had been when the skull was deposited there. The skull itself lay on stones distributed in a circle with stag and horse bones. Under it were the metacarpals of a deer and an ox, intentionally fractured. Among the other bones, in which

those of bovids, equids, and cervids predominated, were the remains of elephant, leopard, lion and hyæna. A. C. Blanc is of the opinion that the skull belongs to the Tyrhenian regression of the last glacial period, when the warm fauna still survived and man had the particular Mousterian industry which from its local characteristics this author has called 'Pontinian.' The Pontinian differs from the Levallois-Mousterian of Western Europe as well as from the so-called Alpine Mousterian, but resembles the Mousterian of the Castillo cave and is perhaps represented at Devil's Tower, Gibraltar. Applying Milankovitch's oscillation curve of solar radiations, A. C. Blanc considers that Circeo man lived about seventy thousand years ago. The men of Saccopastore, who belong to the Pleistocene low terrace of the Anio River, appear to have existed at a time when the cave in which the Circeo skull was found was still invaded by the sea.

Circeo I consists of an almost complete cranium with the base and the right temporo-orbital region mutilated. The base has a large trapeze-shaped aperture, which involves the nuchal and the condylar portions of the occipital, but only slightly the anterior margin of the foramen magnum, and seems to have been made artificially at the time of death in order to extract the brain. A similar opening in the right temporo-orbital region which exposes the cranial cavity appears to have been caused by a sharp instrument. The state of ossification indicates an age between forty and fifty years. Supernumerary ossicles occur in all the fontanelle regions. The general form resembles other typical Neanderthalian skulls, especially La Chapelle, as they are both male and of nearly the same age. The differences are due to posthumous deformation or defects of reconstruction of the La Chapelle skull, which has been elongated excessively at the base with some advancement of the face, producing a degree of prognathism which does not appear in any of the other Neanderthalian skulls. The position of the foramen magnum of the Circeo skull, close to that of Saccopastore I and rather more forward than that of La Chapelle, confirms that the reconstruction of the latter was defective and also the fact that Neanderthal man had an erect posture like modern man.

The frontal curve of the Circeo skull is almost exactly similar to that of the Neanderthal calotte. The cranial capacity is about 1550 c.c., and consequently the skull falls into the group of the most typical Neanderthalian skulls: La Chapelle, Neanderthal, La Ferrassie and the two from Spy. The skull is the lowest of the capacious Neanderthalian skulls. The face is very large, orthognathous, extremely narrow in relation to the height and narrower than in La Chapelle; the inclination of the plane of the large, low orbit to the sagittal plane is 70 degrees, as in La Chapelle, where the orbits are inclined to each other at 140 degrees. The nose is the highest and widest among known Neanderthalian skulls; the nasal index is notably chamaerhine, as in La Chapelle. The alveolar arch also has the U-form of the La Chapelle specimen.

The mandible discovered in the Circeo cave (Circeo II) is incomplete. The left ramus is totally destroyed and the right partially. It has Neanderthalian characteristics, but

does not belong to the Circeo I cranium. The alveolar region is partially destroyed, with vestiges of the alveolus still present; the last right molar remains in place; the region of the chin is 'neutral' (mesogeneiotic).

The Saccopastore and Circeo skulls thus have some characters in common with the European Palæanthropi of the Middle Pleistocene, which are generally called Neanderthals. The distinctions of the Neanderthal type are based on a complex of morphological characters of the skeleton and, more particularly, of the skull. With larger or narrower attribution of the finds to the group, agreement on such characters is not absolute, some including in it the Rhodesian cranium and the Asiatic ones of Ngandong (Java) and Palestine, others excluding even some of the European forms of the same geological period. Reasons for such differences are found either in theoretical presuppositions or in the limits of variation of the type. It is now possible to affirm that the Palæanthropi of the European (Neanderthal) series are distinct morphologically from the Palæanthropi of Asia and Africa. The separation of the Rhodesian skull from the Neanderthals is necessary at first sight, even without the aid of metrical characters, on account of its cerebral and facial morphology, on which I shall not dwell. The cerebral cavity, in the Rhodesian, expands in the direction of the vault, as opposed to the Neanderthals, in whose skulls the cavity enlarges in the occipital region; so that the two types, Rhodesian and Neanderthal, should be considered quite different in the direction of their evolution. The whole occipital sector is characteristically very much more expanded in the La Chapelle, Circeo and Saccopastore skulls. Occipital expansion and platycephaly are common to all Neanderthal skulls, in which the point of maximum posterior extension falls somewhat above the inion, while in the Rhodesian the opisthocranium is coincident with the occipital protuberance as in the anthropomorphic ape and *Sinanthropus*, so that the occipital region does not expand above the inion. Moreover, while the whole occipital sector in the Rhodesian skull is limited in height, the contrary happens in the Neanderthal skull, whose vault is more expanded towards the fronto-parietal region. The Neanderthal parietal bones have a special form of the curve from bregma to asterion; the curve is different in the Rhodesian skull.

The morphological evolution of the human skull, which is already realized in *Sinanthropus* (the Asiatic Protanthropus), develops among the higher Hominidæ (namely the Palæanthropi) in various directions which show their decisive expression in different architectural types. The Palæanthropi of Ngandong, too, are distinguished from the Neanderthal type by different skull architecture. They resemble the Rhodesian skull in the inclination of the nuchal plane and the position of the opisthocranium, but are also dissimilar from it, particularly in the morphology, inclination and lowness of the frontal bone. The various forms of European, Asiatic and African Palæanthropi, which have so many likenesses in the convergence of some characters, are indeed distinct, because their architecture develops on different planes.

Their simultaneous occurrence in very different places makes it possible that they individually represent a stage of an independent evolution of the Middle Pleistocene Hominidæ, during which the brain increases in volume and power.

These various Palæanthropi are therefore parallel in evolution and constitute a polymorphous stage of mankind. The Palestinian Palæanthropi are separate from all the others in the height of the skull, the form of the face and the presence of a chin, so that they have in general a phaneranthropic appearance, some calling to mind Neanderthal and others hinting at Australian or Negroid characters. But the European Palæanthropi, more commonly called Neanderthals, are not all alike. Saccopastore I resembles Gibraltar, but differs from the Neanderthals, including Circeo, so that I regard the skulls of Saccopastore and Gibraltar as Mediterranean variants of the group.

The cranial capacity of Circeo is large and that of the Saccopastore skulls small. The basi-bregmatic height is smallest in Saccopastore I (109 mm.), while in Circeo it is 123 mm. Both Saccopastore skulls have the clivus set more upright and the sphenoidal plane bent more forward. In Saccopastore I the frontal angle is larger; the outline of the occipital region, in the median plane, is rounded, and it does not show the bulge observed in Circeo and La Chapelle. In Saccopastore I the fundamental facial triangle (nasion-basion-prosthion) is notable for the size and relative position of its sides; with the orthognathism of the lateral profile of the face is associated a notably high gnathic index, owing to the great predominance of the basion-prosthion length over the basion-nasion length, and an exceptional inclination of such diameters to the orbito-auricular plane. The maxillary segments of the horizontal craniograms of Saccopastore are not so rectilinear as are those of La Chapelle and Circeo, but they are rather concave forward and converge with a wider angle, i.e. they present a greater 'frontalization' with signs of backward folding. The anterior surface of the maxillary bone has a tendency to curve following the transverse planes, and to fold in oblique sagittal sections, while La Chapelle and Circeo display some flatness in the horizontal and frontal profiles.<sup>3</sup> The nasal aperture in Saccopastore I is wide and low. The *dorsum nasi* of Circeo is quite different from that of Saccopastore. The alveolar region is particularly characteristic in the incisor-canine section, which is very high and lightly arched. The alveolar ridges of the canine teeth of Saccopastore I are strongly developed, the canines deviating downwards from their alignment with the alveolar incisor plane; the great bicanine distance relative to the bimolar distance, associated with sphenoprosopy, constitutes a characteristic theriomorphism of the whole gnathic-facial region, in contrast to the reduction of the strength of the set of teeth, which cannot be traced in any other human type. In Saccopastore the alveolar arch has a horseshoe form, while La Chapelle and Circeo have a U-shape.

Saccopastore I and II possess some fundamental characteristics in common: in the first place, the particular flexion of the base, which in both is a strong folding-forward of the sphenoidal plane; also similar in both is the morphology

of the tympanic bone and the articulation of the temporo-mandibular region. The features of the face are of the same morphological order for the naso-maxillary and alveolar regions, *e.g.* the naso-maxillary curves at the height of the various planes; in the horizontal profile the folding of the frontal process of the maxillary bone at various levels; the folding of the anterior face of the central part of the maxilla; the form of the nasal bones; the form of the alveolar arch; the relative position of the canine and molar teeth, etc. But there are also differences between Saccopastore I and Saccopastore II that, in part, are of small significance, because some of them are due to sex, the first skull being female, the second male; others could be considered dissimilar or of a higher order or with a positive significance. Among the sexual differences are the general size of the face, the cranial capacity (conjectured for Saccopastore II) and the development of the frontal torus. Among the individual differences are the various degrees of the folding of the anterior surface of the maxilla, of the straight elevation of the anterior alveolar region and of the alignment of the canine-incisor teeth. There are also differences whose value is disputable, *e.g.* the different degree of inclination of the orbits and the value of the gnathic index, which in Saccopastore I is very high (112.3), while in II it is 103.4. This is due in the former to

the great size of the basion-prosthion relative to the basion-nasion tract, while the enormous face assumes the same degree of orthognathism in relation to the orbito-auricular plane. If we admit another gnathic index based on the relation between the projected porion-nasion-porion-prosthion distances, the difference of the value of this new index is small: Saccopastore I, 119; Saccopastore II, 116. This proves that the great difference in the gnathic index (basion-nasion-basion-prosthion) in both depends on the different height of the basion, namely, the distances of the basion from the porion.

#### Notes

<sup>1</sup> By the term 'Palæanthropi' I mean the completely extinct Old World forms that constituted a polymorphous stage of humanity dominant in the Middle Pleistocene, *viz.* the Neanderthals of Europe and the men of Rhodesia, Palestine and Ngandong. By 'Protanthropi' are designated the extinct fossil hominids of the Lower Pleistocene and by 'Phaneranthropi' (from *φανερός*, manifest, visible) all representatives of *Homo sapiens*, past and present.

<sup>2</sup> The legendary meeting place of Ulysses and the enchantress Circe, at the foot of which stands the village of San Felice Circeo, about 100 km. south of Rome.—ED.

<sup>3</sup> This point is discussed and illustrated in Sergi, S., 'Sulla morfologia della facies anterior corporis maxillæ nei palæanthropi di Saccopastore e del Monte Circeo,' *Rc. Accad. Naz. Lincei*, 1948.

(To be concluded)

## CHEMICAL PROPERTIES OF HUMAN HAIR AS AN AID IN ANTHROPOLOGICAL WORK

by

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**76** There are only a few chemical characteristics which can be used in anthropological work: tissues are not available, since they cannot be taken from large numbers of normal people; blood may be used, but though it is possible that there are characteristic differences in the chemical composition of corpuscles or plasma, it is very doubtful whether these can be detected; moreover, each test would certainly require much time, whereas for the investigation of very large numbers of individuals, which is necessary in anthropological work, a very rapid test must be available. Hair, however, affords better prospects. The determination of hair colour has been extensively used by anthropologists, but the methods used have been rather rough and subjective. Usually the colour of a sample of hair has been compared with the colours of a series of standard samples, *e.g.* the scale of Fischer and Saller (*Anthrop. Anzeiger*, Vol. 5 (1928), p. 238), which ranges from practically white to black and from reddish blond to bright red.

The colour of hair is a very complicated phenomenon. It depends not only upon the pigments present, but also on the gloss and on the thickness and shape of each hair. Obviously quantitative determination of the pigments would afford a much more reliable method of classification of a human population, but little is known about them.

In 1938 a paper was published by Stary and Richter (in *Z. physiol. Chem.*, Vol. 253 (1938), p. 129), from which it appears that the determination of three proteids, including a black and a red one, might be carried out rapidly by an easy and objective method. These workers treated hair with 2N-NaOH for two hours at room temperature. The hair dissolved to a variable extent, depending upon its colour. On neutralization of the supernatant fluid resulting from the treatment of blond hair with alkali, a white proteid precipitate was formed, which was called 'leukokeratid.' The part which did not dissolve in the alkali was black and was therefore called 'melanokeratid.' The latter proteid appeared to be present in all colours of hair with the exception of red, the ratio of the amounts of black and white increasing with the depth of the colour. Red hair, which dissolved much more quickly, appeared to contain a red proteid, called 'rhodokeratid.' Hence it seemed possible to characterize the hair of any person by the relative amounts of these keratids in the hair. I found, however, that the white and black proteids cannot be sharply separated by treatment with alkali at room temperature. At a moment when the leukokeratid had not yet dissolved completely, the melanokeratid, which is decidedly less soluble, had already dissolved to an appreciable degree. Hence, after short

treatment with alkali, acidification of the supernatant fluid produces a pure white precipitate; later, however, these precipitates are greyish.

Another method of distinguishing by chemical means between various kinds of hair might be founded on the difference in solubility of leukokeratid and melanokeratid, detected by simply determining the amount of nitrogen dissolved in a certain time by treatment with 2N-NaOH; but this procedure, too, failed to give reliable results in our

colours of the different samples of hair and the colours of the solutions.

The only remaining method promising any success was complete solution of the hair and determination of the absorption curves of the solutions. This may be done by treating the hair with boiling 4N-NaOH or with boiling thioglycolic acid. These experiments were carried out in the following way:

(a) 150 mg. of hair were dissolved in 5 ml.

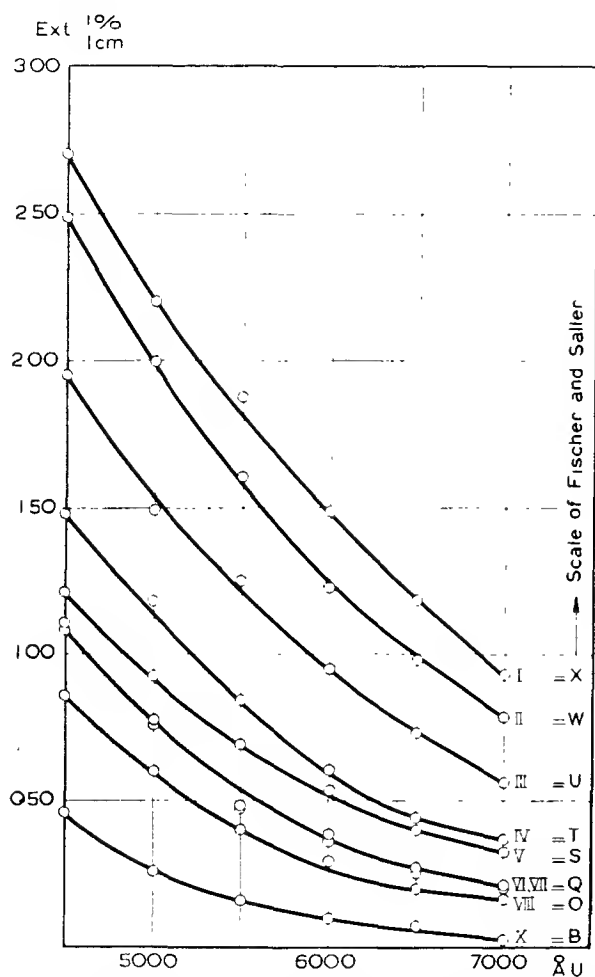


FIG. 1. ABSORPTION CURVES OF VARIOUS KINDS OF HUMAN HAIR, DISSOLVED IN 4N-NaOH-GLYCEROL MIXTURE (1 G. PER 100 ML.)

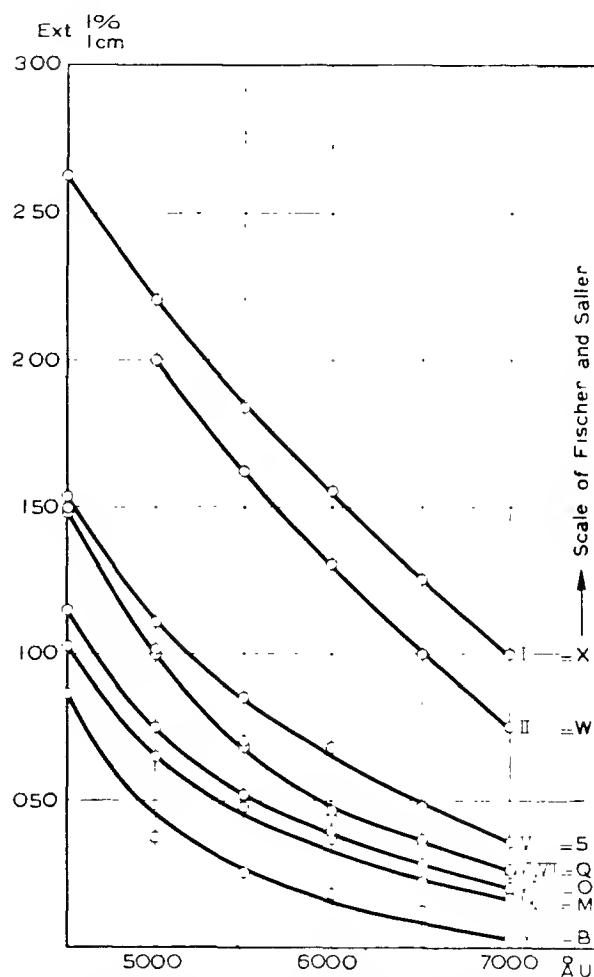


FIG. 2. ABSORPTION CURVES OF VARIOUS KINDS OF HUMAN HAIR, DISSOLVED IN THIOGLYCOLIC ACID (1 G. PER 100 ML.)

hands. There appeared to be no relation between the depth of colour of the hair and the amount of nitrogen dissolved in thirty minutes.

Arnow (in *Biochem. J.*, Vol. 32 (1938), p. 1281) describes the use of hydrochloric acid to extract a red pigment from red hair, the hair being boiled for several days with 0.1N-HCl. I thought it possible that this pigment was also present in hair of other colours and that the amounts determined after exhaustive extraction might be a useful characteristic. The solutions obtained by shaking out the hydrochloric acid extract with *n*-butanol were red or yellow, but no relation appeared to exist between the

4N-NaOH by boiling. After cooling the solution was transferred to a 25-ml. flask and made up to the mark by adding glycerol (the alkaline solution is slightly turbid and is clarified by glycerol).

(b) 50 mg. of hair were dissolved in a few millilitres of thioglycolic acid by boiling for some minutes. After cooling the volume was made up to 5 ml. by adding some more thioglycolic acid. The thioglycolic acid used had a boiling point of 114° at 25 mm. pressure.

The absorption curves, determined by means of the electric spectrophotometer, are shown in figs. 1 and 2. The types of the absorption curves in alkali and thioglycolic

acid are the same. They are quite smooth, and show no maxima indicating various pigments. The sequence of the heights of the curves in both figures is, however, identical with the sequence of the hair colours in the scale of Fischer and Saller. Hair colours (e.g. Q and S of the scale) which can scarcely be distinguished by visual inspection can be easily distinguished by the height of the absorption curves. The curves of hair of identical colour (VI and VII, both equal to Q of the scale) appeared to coincide completely. Hence both kinds of absorption curves give a good means of characterizing hair of different colours, but this method is not to be preferred to simple visual comparison of the colours, which takes much less time.

According to Rothman and Flesch (in *Proc. Soc. Exp. Biol. Med.*, Vol. 53 (1943), p. 134), a purple solution is obtained from red hair by treatment with glacial acetic acid at room temperature for one hour, followed by boiling with 0.1N-HCl for two hours; though the colour of the hair is not changed by this treatment, it is not possible to obtain a second purple solution by repeating the procedure; according to our experience it is only bright red hair which gives the purple solution, reddish-blond or reddish-brown

hair giving a negative result. This property of red hair might prove useful to anthropologists.

This work has been carried out at the instance of Dr. L. Kaiser and supported by a grant from the Jan Dekker Stichting, Amsterdam, to Professor Dr. H. G. K. Westenbrink.

### Conclusion

Hair of colours ranging from nearly white to black cannot be characterized by determining the amounts of leukokeratid and melanokeratid according to Sary and Richter, or by the amounts of nitrogen dissolved by 2N-alkali at room temperature, or by boiling with 0.1N-hydrochloric acid. Boiling with 4N-NaOH or thioglycolic acid gives solutions which can be sharply characterized by their absorption curves, but these methods seem to offer no advantage as compared to simple visual identification with the aid of the Fischer-and-Saller scale.

Bright red hair only yielded a purple solution after treatment with glacial acetic acid followed by boiling with 0.1N-hydrochloric acid. Distinction between reddish and red hair seems possible by this method.

## ROYAL ANTHROPOLOGICAL INSTITUTE PROCEEDINGS

### Digging up the Moa-Hunters: An Earlier Phase of Maori Culture. By Roger Duff, M.A. Summary of a communication to the Institute, 2 March, 1948

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The lecturer suggested a new approach to the problem of culture-differentiation in a culture area, namely to reverse the usual procedure of working outwards from the centre and work inwards from a point on the periphery. In this respect New Zealand was claimed to be peculiarly suitable, not only from occupying the most remote point on the Eastern Polynesian periphery, but also from providing through the association of bones of the *Dinornis* (moa) and other extinct birds an objective means of distinguishing the earlier from the later material-culture stratum. Although 'moa-hunter' sites were first investigated, with this object in view, as early as 1870, it was not until the discovery of the Wairau site in 1939 that it was possible to isolate the moa-hunter culture era as distinct from Maori culture as it was found in the late eighteenth century. For this the discovery of twenty-nine burials was largely responsible, the burial practice and wealth of burial offerings providing a new and vivid picture of an archaic stage of Maori culture. The formal burial practice, applied particularly to adult males, was prone internment with the feet aligned to the south-east and the head to the north-west. Post-burial disinterment and the removal of cranium alone or cranium and mandible were a frequent feature.

Final confirmation of the co-existence of the moa with men was the recovery of ten moa eggs from the graves. Where undamaged by the weight of the grave spoil, they were seen to be perforated from one end only, probably to serve as water-containers. Burial was in open areas closely adjacent to the village, which like all moa-hunter sites was neither fortified nor capable of fortification. There was further negative evidence suggesting that the moa-hunters lived at peace (the absence of human bone as a material for fish-hooks or other utilitarian artifacts, the absence of

evidence of cannibalism in the midden refuse and the absence of stone or bone clubs of the *patu* type). The situation of moa-hunter camps further favoured the thesis that the moa-hunters had not brought any food plants from Polynesia, although they had introduced the dog.

Moa-hunter ornament types differed sharply from Maori forms, comprising necklaces of bones or teeth or shells, with no single example of the use of nephrite. One necklace type comprised large tubular ridged beads fashioned from the mid-femur of the contemporary moa (*Euryapteryx gravis*). These were relieved by a central pendant sperm-whale tooth, both beads and central pendant being occasionally copied in soft serpentine stone. A second was patterned after a row of suspended whale teeth, but with each pendant a smaller conventionalized rendering in moa bone or ivory. These resembled both the recent necklaces of Fiji and in one respect the hook-shaped ivory breast pendant of Hawaii. Other necklace types comprised the squared teeth of the *Carcharodon* shark, the teeth of the common dolphin, cut lengths of fossil *dentalium* shell, and valves of bivalve shellfish. There were no recognizable ear pendants, but tattooing chisels of bone conformed to the later Maori type. Cloak pins were rare and bone decorative combs unknown.

One form of fish-hook represented a clear copy of the tropical bonito lure, the fish-formed shank rendered in stone, mussel shell or bone. There was no evidence of the employment of bone-pointed composite bait hooks for taking large fish, but numerous small one-piece unbarbed hooks found were worked in bone or ivory. Several small harpoon points agreed in form with those recorded from the Marquesas and the Chatham islands. A single example of the barbed bone bird-spear point was found.

Over two hundred stone adzes found either with the burials or in the camp area comprised fifteen varieties, the evidence of specialization into well marked types being quite remarkable in

Polynesia and only approached in Pitcairn. These severally matched all the types represented in peripheral Eastern Polynesia, while the triangular form common to the Society, Cook, Austral and Marquesas islands was represented in a small proportion as an incipient or prototype equivalent. The standard Western Polynesian adze form, as most typical of Samoa, was also matched in a few examples. The one type completely unrepresented was the rounded tangless form typical of later Maori culture, Fiji and Tonga. The great majority were worked in a tractable fire-grained altered mudstone, and only two nephrite examples were found.

The general trend of the evidence suggested a culture stratum older than that represented in Maori culture as Europeans came to know it. This was, however, to be regarded as an ancestral stage of Maori culture, from which the latter had evolved by the normal internal mechanisms of culture-differentiation, and the material found in no way supported the long-prevalent belief that the Eastern Polynesian immigrants of the fourteenth century, or their immediate predecessors of the twelfth, found a prior Melanesian people in occupation. As long as this belief was held the normal explanation for any peculiar trait of Maori culture had been to ascribe it to this supposed Melanesian migration. The lecturer stressed incidentally the slenderness of the evidence on which the Melanesian theory had been founded, the only support from material culture being due in his opinion to a misinterpretation of it, while the sole traditional support was the highly suspect second volume of the *Lore of the Whare Wananga*. Since the emergence in the New Zealand field of trained specialists in material culture, notably Skinner and Buck, the tendency was to reject the hypothesis of extra-Polynesian migrations in explaining peculiarities of Maori material culture in favour of the simpler hypothesis of the effect on a Polynesian prototype culture of isolation in a unique environment. The Wairau excavations had greatly supported this interpretation by revealing no slighted Melanesian affinities in the earliest demonstrable phase of South Island culture, and it was unlikely that the North Island would tell a different tale.

Turning finally to the contribution to the theory of the relationship of the periphery to the centre of a culture area, the lecturer suggested that in an oceanic archipelago such as Eastern Polynesia, where the peripheral groups looked out on space and did not adjoin adjacent culture areas as in a continental setting, the periphery differed from the centre in the retention of old forms which had been subsequently replaced at their presumed dispersal point. This reversed the normal implication, in studies of North American culture areas, *viz.* that the centre retained the oldest forms and the periphery exhibited only an attenuated echo of them. The evidence available was admittedly confined to a few classes of material-culture traits, notably stone-adze and ornament form, but the distribution of these conformed to a remarkably regular and constant pattern favouring the thesis advanced in the talk.

**Indian Textiles from Guatemala and Mexico.** By Miss Laura E. Start, M.Ed. Summary of a communication to the Institute, 16 March, 1948

78

The great variety of effects in weaving that can be produced on a primitive stick loom of the back-strap type, a form traceable to Maya times, is well exemplified in the McDougall collection recently given to the Pitt Rivers Museum at Oxford.

The weaver's equipment consists of a bundle of sticks of different dimensions, weights and sections with sufficient rope (made of agave fibre) to suspend one end bar from a tree or hook and attach the back strap of leather, cloth or plaited palm leaf to the other end bar. After selecting her end bars the weaver may choose a thin stick to hold the heddle loops, a thicker, heavier one as shed

rod, to open the countershed, and thin ones for lazy rods to keep the even and uneven warps separate, another to act as spool and, most precious of all, a smooth, hard-wood batten or sword-stick with some type of bevelled edge. The last is made by the men.

Cotton, wool and maguey or ixtil (agave fibre) can be used as yarn, but for all traditional garments such as the *huipil*, *tzute* and *quexquemil* cotton is always chosen. Wool is used for men's jackets, shawls or pouches and for ceremonial trousers, as well as for some of the wider decorated belts worn chiefly by women. The climate being temperate and equable, men usually wear cotton trousers and a shirt cut on rectangular lines, with the jacket or shawl as an additional garment; and they always wear some head-covering, either a hat or a *tzute*. The lengths of cloth for the women's wrap-round skirts are almost invariably woven by men on a two- or four-treadle loom, of the old English or European type, and are traded in the local markets. These skirt lengths may be decorated by coloured weft stripes or by *ikat*-patterned stripes in either warp or weft. *Ikat* patterns (the name is Indonesian) are produced by a resist method; the pattern which is to remain as a light-coloured design on a darker ground is tightly tied up with string or fibre that will be impervious to the dye and the cloth is dyed before being woven. In the remote highland communities the cotton is gathered, cleaned, beaten into a long sliver, spun and, if needed for pattern work, dyed by the weaver herself; but nearer the towns commercially spun yarn is being more and more used. Much time and highly skilled labour are expended on such a garment as the *huipil*, a rectangular blouse-like article made from two or three lengths of cloth woven to the exact size required.

Beside various fancy weaves, such as canvas, repp, crêpe, corded and gauze, garments are further decorated by brocading in cotton, wool or silk, floating warps and weft patterns, appliqué and embroidery. In Mexican Indian work the use of fancy gauze weaves is highly developed. On a lacy background of so-called Peruvian gauze (a weave found in ancient Peruvian examples), anthropomorphic, zoomorphic and geometrical patterns appear as solid, being worked in another closely packed type of gauze weave. The elaborate crossings of the warps used in the fancy gauzes are usually done entirely by the fingers, and the woman visualizes her patterns, having no drawn design. Plain gauze weaving is sometimes expedited by the use of an extra heddle to pull the necessary warps across their neighbours before a shed is made. In the Mexican area, too, double-cloth weaving with reversible patterns in colour is used for making belts and bags. Again fingers do most of the work, but the weaving is aided by the use of three heddles and a shed stick, so that if the pattern is red on white, the shed stick and heddle nearest to it operate the odd and even white warps and the second and third heddles the red warps, so helping the woman to make her selection.

In Guatemala eighty per cent. of the inhabitants are of Indian blood and most of them claim direct descent from the Maya. The patterns worked into the garments are traditional and characteristic in each tribe. Where not derived from geometrical forms (possibly suggested by the marvellous architectural remains of the past), the motives seem mainly to have some connexion with the daily life of the people. A *huipil* made by a Pocoman Indian from San Juan Sacatepequez has brocaded patterns of stags, sheep, armadillo and turkeys, all good for food, horses and mules, useful for going to the local market, and crested birds. Often a weaver will introduce some small special motive, her signature, which will be recognized by other women of her tribe wherever the garment may be. A necklace and pendant effect worked in appliqué, which appears on garments from several tribes, may be derived from the necklace and pendant worn by the Maize God of Maya mythology, whilst anti-spirals connected with conventional feather patterns, which occur on several specimens, may indicate their



feathered-serpent symbol. A highly conventionalized double eagle is probably reminiscent of the Spanish conquest in 1521, as it is an emblem of Charles V. Patterns in the Mexican section are more sophisticated and, particularly the embroidered ones, savour of Western civilization. This may be due to Spanish influence, but commercial patterns are also available in the markets and are adapted. An eight-pointed star and a large hand which appear on several examples may have special significance, whilst in both countries a bird on a tree is used as a motive (said to represent the tree of life and to be connected with fertility

rites): the tree is usually considered to be a pine and was the symbol of the Maya race or the place they came from.

Further study of a larger group of patterns might reveal the origins of other designs, but the rapid spread of commercialism and easier contact with the outside world is resulting in the adoption of Western types of garment and a deterioration of both craftsmanship and ornament. For this reason a collection such as this is a permanent and irreplaceable record of the great technical skill and artistic quality displayed in the weaving of these Indian peoples.

## SHORTER NOTES

### **The Anthropological Survey of India : Part I, History and Recent Development.\*** *Communicated by Dr. Verrier Elwin, Deputy Director*

**79** Although India was one of the earliest countries to start an Ethnographical Survey, which it did during the Viceroyalty of Lord Curzon, this was closed down prematurely owing to the transfer of the Director, Sir Herbert Risley, to other work, and for many years little was done to revive it. Strong recommendations were made by Dr. Nelson Annandale, F.R.S., for the institution of a separate Ethnographical Survey when the Zoological Survey of India was reconstituted out of the old Zoological and Anthropological Section of the Indian Museum in 1916. Dr. R. B. Seymour Sewell, F.R.S., who became the Director of the Zoological Survey of India in 1924 as successor of Dr. Annandale, made similar recommendations in 1927 and again just before his retirement in 1932, but the financial stringency of the time stood in the way, and anthropology was relegated to a subordinate section of the Zoological Survey under a single officer, Dr. B. S. Guha, to work in all branches of the subject.

In 1945, however, a scheme for the reorganization of anthropological research was prepared by Dr. B. S. Guha and Dr. Seymour Sewell, who was invited by the Government of India to make proposals for the formation of an independent Anthropological Department, and at the end of that year the nucleus of the Anthropological Survey of India was formed. In 1946 the long-dreamt-of plan came into being. The Survey was definitely established with a five-year programme (see Part II) and a budget rising from more than 1½ lakhs in the first year to nearly 4½ lakhs in the fifth. Dr. B. S. Guha was appointed Director, with the additional duty of acting as Anthropological Adviser to Government, and Dr. Verrier Elwin was appointed Deputy Director. Offices, laboratories and a library were opened; officers and other staff were appointed and work was begun. By the end of the five-year period the Anthropological Survey should be a fully developed, well equipped and efficiently staffed institution which will study man on the broadest basis and in every part of the Dominion of India.

During the first two years of its life the Survey has been located in Benares, for the disturbed conditions in Calcutta made it impossible to move to its proper home there, the Indian Museum. At the beginning of 1948, however, the Survey is moving to its commodious offices in the Museum, where it has already opened its ethnographical galleries.

In India an enormous field of research, both theoretical and practical, lies before the anthropologist. The study of the physical characters of the people is still incomplete. Since Risley's pioneer work in 1891, now rendered somewhat obsolete by great advances in the methods and techniques of the science, very little

has been done except the work of Eickstedt, Cipriani and Bowles in some parts of the country and Dr. Guha's investigations on selected tribes and castes during the Census of 1931. Not only do bodily measurements and characteristics require the fullest investigation, but these measurements should be accompanied by the study of deep-seated physiological characteristics, such as the percentage of blood groups in each race, which may well provide evidence of the original source from which particular tribes or races have sprung; of the effect of nutrition, and especially of an unbalanced nutrition, on the growth and proportions of the body and possibly also on its resistance to disease; and of the effect of climate on bodily structure and other physical characteristics—all still largely unexplored.

Despite a number of outstanding monographs on individual tribes and concise 'glossaries' of tribes and castes, the social organization, the religion and the customs of vast numbers of the Indian people are still but scantily recorded and imperfectly understood. The fields of criminology, tribal art, primitive linguistics, the application of modern methods of psychological investigation to aboriginal people, the economics of the countryside not only offer a tempting subject of research to the scientist, but urgently require investigation if the inhabitants (and especially the more primitive inhabitants) of the country are to be administered with sympathy and understanding.

#### *Work Completed and Projected, 1946-48*

The greater part of the year 1946-47 was spent in building up the equipment, library and laboratories of the department. An X-ray plant with accessories and radiographic material has been purchased. The Applied Psychology Laboratory has been equipped with apparatus for mental tests, accessories and equipment being made locally. Arrangements have also been made for purchasing from America more delicate and complicated instruments for testing primitive people. The number of books in the library is now over 5,000 and complete sets of important anthropological journals, as well as many other books and journals not otherwise available in India, have been obtained from abroad.

The scientific studies undertaken since December, 1945, are as follows:

(1) The detailed study and restoration of the skeletal materials from Harappa. These fragile remains, in spite of the regular application of preservatives and all possible care, have suffered greatly by being shifted from Calcutta to Dehra Dun during the war and then again to Benares, and by the subsequent damage caused by the great Varuna flood of September, 1943. The greater part of the repair and restoration has now been completed; so has the larger portion of the diaphotographic tracing of skulls which were ruined by flood water. Much progress has also been made in the osteometric study of the bones, including parallelogram drawings and tracings and measurements of angles of retroversion and torsion. Two short

\* Part II (*The Five-Year Plan*) will be published in the next issue of MAN.



reports, one on the animal remains from Orikamedu and the other giving a preliminary account of Harappa skeletons excavated this year, have been sent to the Director-General of Archaeology.

(2) A comprehensive report was completed on the cultural and racial affinities of the primitive tribes of India and the problems affecting their administration in the light of experience with tribal peoples in other parts of the world. Maps illustrating the distribution of these tribes and their proportionate strength were also prepared. This work entailed examination of a large mass of materials on non-Indian tribes which was only with difficulty obtained.

(3) Fieldwork was commenced at the earliest possible moment, even before touring equipment was available. From December, 1946, to February, 1947, the Deputy Director went with a party into the hills of Orissa, where he made a special study of the religion of the Lanjia Saoras while members of the party investigated their economics and physical characters. In May, 1947, the Director led a large expedition to the Jaunsar Bawar area, and valuable work was done both on the physical side and in investigating the psychology and sociology of the inhabitants, whose social customs present problems of peculiar difficulty and complexity to the administration.

(4) The application of mental tests to school-going children in Benares for the assessment and gradation of their mental abilities, in order to provide norms for comparison with the results of similar tests on children of primitive races, was started during the year.

(5) At the beginning of 1948 the Director was to take a party of investigators to the Andaman Islands in order to make an up-to-date survey, physical, psychological and economic, of the aboriginals who are still surviving in that most interesting region. The Royal Indian Navy is co-operating and the expedition is being undertaken by the express wish of Government.

The Survey plans three types of publication: a twice-yearly Bulletin consisting of papers by members of the Department; Memoirs; and popular handbooks in the national languages intended to make the latest anthropological knowledge available to a wide public.

In addition to research work, the Survey has a scheme for giving advanced training to students. Six post-graduate students were selected during 1946-47 and four others will be trained in 1947-48. Two students went on the Orissa expedition early in the year and two others accompanied the Director to Jaunsar Bawar. While at headquarters they have been given regular instruction and opportunities for laboratory training on a scale at present unobtainable elsewhere. The training course for these students is of two years'

duration and a stipend of Rs. 150 a month is allowed them: it is hoped to send some of them later to Europe and America.

In view of the rapid advance in the development of method and technique in other countries it is proposed to offer a few visiting Fellowships to foreign scholars, both Asiatic and Western, to facilitate their researches in India; it is hoped not only that the cause of science will be advanced thereby, but that the latest experience of world scholarship will be made available to the Survey. In addition to the award of such Fellowships the Anthropological Survey will be happy to give assistance to anthropologists from other parts of the world who wish to visit India, and those intending to do so are advised to approach the Dominion Government through this channel, writing to Dr. B. S. Guha, Ph.D., Director, Anthropological Survey of India, Indian Museum, Calcutta.

(To be concluded)

### A Bibliography of Liberia

80 Although many fragmentary bibliographies of Liberia are in existence none of them can be regarded as exhaustive. Dr. Théodore Monod, Director of the Institut Français d'Afrique Noire, Dakar, Sénégal, French West Africa, has therefore undertaken the compilation of as complete a bibliography as possible, and will be grateful for any assistance, even single titles being welcome. Fuller information as to the details required may be obtained from Dr. Monod, or may be seen at the Royal Anthropological Institute, but the following rules will serve as a guide to contributors:

1. The simple mention of 'Liberia' will not entitle a work to inclusion, unless some interesting fact is also mentioned.
2. Newspaper articles will not be cited unless they contain a fact or picture of scientific importance.
3. There will be no discrimination on political, national or moral grounds.
4. As far as possible references should have been seen and verified; otherwise the letters 'n.s.' (not seen) should be appended.
5. If possible references should be written on cards of size 125 by 70 mm.; if on ordinary sheets, on one side only.
6. Unless the title of the work clearly indicates its contents and it is mainly concerned with Liberia, a summary of Liberian references with page, plate or map numbers will be necessary.
7. Archive material may be included.
8. Material printed in Liberia is of special importance.

Material may be sent either to Dr. Monod at the Institut Français d'Afrique Noire (Bibliography of Liberia); or to Dr. and Mrs. G. Chauliac (Bibliography of Liberia), c/o French Legation, Monrovia, Liberia. Full acknowledgment of all contributions will be made in the published bibliography.

## REVIEWS

### GENERAL

**Manuel d'Ethnographie.** By Marcel Mauss. Paris (Payot), 1947. Pp. 211. Price 240 francs

81 This book is a shorthand record of Professor Mauss's lectures given each year at the Institute of Ethnology at the University of Paris from 1926 to 1939 under the title of *Instructions d'ethnographie descriptive*. It lacks therefore the finished literary form in which Professor Mauss has presented his many important contributions to sociology, and it seems that he was not able to revise the text before publication. The lectures were delivered to an audience consisting, at any rate in great part, of French colonial officials and they were designed to interest these officials in the peoples of the French empire and to instruct them how to make observations and records about them. In other words, the book is a

kind of *Notes and Queries on Anthropology* and if it suffers by comparison with this publication from the author's lack of fieldwork experience it has the advantage over it of being the product of a single mind, moreover a mind which moved with perhaps greater ease and grace through the mazes of theoretical sociology than any of its contemporaries.

The book starts with an account of the difficulties of ethnographic enquiries and with the principles and methods of observation. In further chapters, as its purpose directs, it treats of each category of social facts: social morphology, technology, aesthetics, and economic, juridical, moral and religious phenomena. Each chapter contains a general theoretical introduction followed by a classification of the social forms which come within the particular category

under discussion and suggestions of what facts should be recorded by the fieldworker and how they should be observed. Thus in the short chapter on economic phenomena there is a brief discussion of the views of Bücher, Stummel, Giddings, Simand and others about the nature of economic facts, followed by notes, with headings and pointers for fieldworkers, on production, distribution and consumption, and money, and by a select bibliography. The select bibliographies are throughout adequate and up to date.

A book dealing with so considerable a number of topics and with so practical a purpose does not lend itself to critical review. Had the author been able to complete it and write it himself for publication the theoretical development from chapter to chapter would doubtless have been less broken, but as it stands it provides both an excellent manual for fieldworkers and a short general introduction to social anthropology by one of the foremost builders of the science. E. E. EVANS-PRITCHARD

**History.** By V. Gordon Childe. London (Cobbe Press), 1947. Pp. 86, with illustrations. Price 7s. 6d.

**82** In this interesting and stimulating little book Professor Childe sketches the processes by which history came into existence and summarizes the views of the various schools of historical philosophy. He criticizes the theological, naturalistic and comparative theories of history, and decides in favour of the Marxist view of 'history as a creative process.' Much of his criticism, especially of Professor Toynbee, is very effective, but he tends to be unduly dogmatic.

He says (p. 24) that 'the origins of myths are hotly disputed issues, but from the scientific standpoint all must rank as fiction.' But it is now widely held that many myths are actual descriptions of ritual.

'Magic,' he says (p. 37), 'is a way of making people believe they are going to get what they want, whereas religion is a system for persuading them they ought to want what they get.' He must know that it is not as simple as that.

Discussing the 'Great Man theory,' he says (p. 42) that 'the objective fact in history is that when a man was necessary, he was found.' But why, for example, was a Richelieu necessary in the seventeenth century and not in the eighteenth, or a Wellington necessary in 1815 and not in 1915?

He ends the book by assuring us that 'one great statesman of today [sc. Stalin] has successfully foreseen the course of world history,' but he notoriously failed to foresee the German invasion. It may safely be said—outside Russia at any rate—that the Marxist theory is no more infallible than the others. RAGLAN

**Our Evolving Civilization: An Introduction to Geopacifics; Geographical Aspects of the Path towards World Peace.** By Griffith Taylor. O.U.P., 1946. Pp. xvi. 370, with 108 text illustrations. Price 21s.

**83** This comprehensive book summarizes and illustrates the geographical teaching of the author, in Sydney, Chicago and Toronto. He has travelled widely, and intensively enough to carry out real surveys of large regions from his special point of view. He was trained in physics and geology, and has worked with Edgeworth David, W. M. Davis and Captain Scott. In his long experience of teaching he has encountered many outlooks and theories, and been involved in acute controversies; and he has been a voluminous writer.

By Geopacifics—accented on the third syllable, like Geopolitics—he means his 'attempt to base the teachings of freedom and humanity upon real geographical deductions: it is humanized Geopolitics' (p. 249), and claims to refute the aggressive Geopolitics of Haushofer and his pupils in the last generation, and to lead towards the repair of the disasters which that doctrine brought on the world. It is, however, definitely 'environmentalist,' as the outcome of the author's own experiences in harsh environments; and its value is in its interpretation of the factor of geographical environment throughout the course of human history: or, as a 'possibilist' would say, to the successive points where some 'great man' or other seizes on some unappreciated aspect of the environment and changes the whole relation between men and their surroundings accordingly.

It is all very well to say that if Columbus had not discovered America, someone else would have done so: it is not the personality of Columbus, but the fact of the discovery, unmade before, and irrevocable, that is significant. America, the environmental factor, was there all the time, but had not affected the 'course of history' at all; not even for the compatriots of Eric the Red. And it is admitted here, at the outset, that there are many other aspects of the progress of civilization (p. 3): and geography being a 'liaison subject' has a vital task in handing across the conclusions of science and of philosophy from one field to the other, as its premisses.

Characteristic of the whole enquiry is the method, borrowed mainly from geology, of classification by strata and zones. Novelities spread outwards from their place of origin, displaced and replaced by other novelities, more recent: the oldest 'novelties' become therefore marginal. Within the margins, the newer is superposed on the older, archaeologically. Some of the most striking of Griffith Taylor's diagrams illustrate this general fact in surprising examples. But the world pattern is not merely concentric; for geographical expansion occurs on the surface of a planet which (so far as it is more than merely 'geoid' in shape) is essentially tetrahedral; not merely in its fundamental structure, but in the distribution of seas and lands, and of all that results from their inter-relation, being determined by that 'pattern'—if so it can be called, seeing there is but one exemplar of it. It is contended, however (p. 6), that the general layout of the five continents (including Antarctica) is sufficiently similar to permit analogies and comparisons; and that similar analogies may be detected among the periodic crises of core-shrinkage and folded-mountain structure between the resistant 'shields' of the crust. The Pacific depression is, however, an unexplained anomaly. It is suggested (p. 19) that these crises are somehow connected with the principal phases in the evolution of vertebrates and of man, and with recurrent 'ice-ages,' and so, presumably, with the distribution of 'optimum' climates as possible homes of cultures.

On these general lines, Chapter III deals with racial characteristics and differentiations in man; Chapter IV with racial mixing and Chapter V with certain cultural distributions and cultural developments in pre-nationalist times; Chapter VI with languages, especially the Aryan group, as mainly responsible for segregation into nations; and Chapter VII with the subsequent effects of the greater religions of the Western nationalized world. A more specifically regional approach to that world is based on the distribution of culture waves in place of physical barriers and within areas of material advancement. In Chapter IX begins a parallel enquiry into the junction of settlement types and especially of cities, with a few types analysed in detail: and Chapter X deals specially with Toronto, Chicago, London, the Ruhr and Canberra.

On this 'world-plan' is based analysis and criticism of German militarist theories, deliberately aggressive and predatory, and consequently taking special account of the geographical distribution of the larger and more essential commodities within existing national communities. This analysis is most valuable, with its plain speaking about war-crises like 'lebensraum' in Japan or Germany.

The relation between natural avenues or obstacles and schemes of conquest is obvious, and is illustrated by the military situation of Europe, with its 'seven southern gates'; by the special problem of the Alamein campaign; and by the geographical analysis of the progressive collapse of the Nazi conquests. The correlative study of the geographical factors of any permanent peace in Europe starts, necessarily, from Versailles, and contains much incisive commentary on the subsequent history of the 'sore spots' on the map. It leads to a plea for 'fair trade,' and the rehabilitation of war-ravaged areas, to some suggestions for the study of the so-called 'atomic' problem; and to a wide survey of possible adjustments between populations and resources, especially in Canada and the U.S.S.R., illustrated by optimum 'isopleths of comfort.' By a curious oversight, the 'Seven Ages of Man' on pp. 359f. are in fact eight. We are now passing from an age of 'scientific exploration,' consequent on the industrial revolution, into one in which 'nationalism' may be controlled by 'independent attempts to relieve social injustice,' especially in newly developed lands where large-scale

experiment is possible. Essential to this is the aim of 'training youth to deal intelligently with existing conditions,' an aim derived from Greek education, and powerfully promoted by thought-provoking books like this, and not least by the graphic and tridimensional approach of its research diagrams.

JOHN L. MYRES

**Charles Darwin.** By Jean Rostand. Paris (Gallimard), 1947. Pp. 243, 4 plates. Price 220 francs

84

In this little book Rostand tries to give the non-specialist reader a picture of Charles Darwin and of his life's work. It is, one may say, such as Darwin himself would approve. Much of it is familiar to many of us and the vulgarities of certain mainly but not entirely theological objectors are exposed, including those of

Karl Marx and Nietzsche. Darwin's resolute stand against argument from observation of nature on behalf of a preconceived design is given weight alongside of his reticent modesty and aversion from polemics. The part of Rostand's book which deals with the period after Darwin's death is fair, but not quite so satisfactory. He expresses the usual regret that Darwin did not know Mendel's work, though Mendel knew Darwin's. If only Mendel had had the idea of sending a copy of his famous paper to Darwin, what might not have followed! Rostand makes no reference to R. A. Fisher's work, nor to Julian Huxley's study of evolution, though he does mention Haldane; but it is difficult to cover all aspects of a subject and we may well be grateful to Rostand for what he has done.

H. J. FLEURE

## OCEANIA

**Hawaiian Americans: An Account of Japanese, Chinese, Polynesian and American Cultures.** By Edwin G. Burrows. Yale Univ. Press (London, Geoffrey Cumberlege), 1947. Pp. 228. Price 16s.

85

In the months following the Pearl Harbour attack, the American public discovered that the second- and third-generation Hawaiian Japanese had become better citizens of their adopted country, as measured by army enlistments and other signs of loyalty, than had their counterparts on the mainland. Stimulated by an interest in the processes by which this change had come about, the author gradually extended his scope and now presents an account of the evolution of the Hawaiian community. The gradual acceptance of the superiority of *haole* (white) ways by the native Polynesians, their abandonment of large parts of their inheritance for white methods of working and their occasional outbursts of violence and fanaticism as a reaction to these changes, are well described. The Hawaiian today has accepted the lowliest status, both social and economic, of any of the people now in his homeland. Cantonese and Japanese labourers, introduced at first for their reliability as steady workers on the sugar plantations, have shown more resistance to wholesale changes in their way of life. They have preserved some of their individuality through games, amusements and religious observances. But here too the pressure of the dominant American *mores* has limited these non-American activities to innocuous play forms.

Change inevitably imposes stress and the conclusions of this study are of some interest. In Hawaii relief from the social conflicts consequent upon a century of change has come about through a wide measure of racial tolerance, through permitting and encouraging all modes of co-operation and through spontaneous and unsupported outbursts of enthusiasm for native games and pastimes, whether Hawaiian or Oriental. For our administrators, about to make far-reaching and rapid changes in colonial territories, these conclusions, if valid, should be of practical importance.

The data on which this book is based come from many sources,

including some personal studies in Hawaii. It is unfortunate that the author, while admitting the paucity of his material, sometimes generalizes rather more than either the quantity or quality of his data would seem to permit. The conclusions, none the less, may be quite correct.

J. M. MOGEY

**Do Kamo.** By Maurice Leenhardt. Paris (Gallimard), 1947. Pp. 255. Paper Cover. Price 295 francs

86

This is a study of 'personality and myth in the Melanesian world,' but deals almost entirely with New Caledonia. In the religion of the New Caledonians the author recognizes three strata, which he classifies as pre-totemic, totemic and mythic. The three have different but overlapping distributions.

He stresses that 'alive' and 'dead' do not mean to the Melanesians what they mean to us: for them to be alive is to be healthy and active, and to be dead is to be sick, insane or aged, as well as actually dead (a funeral ceremony performed for a lunatic renders harmless his breaches of taboo). In a long section on the native idea of time he tells us that the mythic age is thought of as existing simultaneously in the past and in the present. The actual past is regarded as belonging to the elders, and as being of no concern to the younger generation. 'To speak of history, one must be able to express oneself in terms of the past. And we have seen that the formulations of time which are familiar to us correspond to nothing that exists among the Melanesians' (p. 115). Reincarnation is not believed in, since it involves the idea of a time sequence, which is foreign to their mentality. Those who represent the ancestors are regarded as actually being them.

The prestige of the chiefs is high, but they do not issue orders, perform administrative functions or own the land. People bring them the first fruits because they represent the gods. The author cites with approval, and reinforces, the parallels which Hocart drew between the chieftainship and caste system in India and in Melanesia.

In the last section he has much to say about how the myths of the natives affect their attitude towards Christianity.

RAGLAN

## CORRESPONDENCE

**Early Foreign Trade in East Africa.** Cf. MAN, 1947, 161, and 1948, 21 and 22

87

SIR,—With reference to Mr. Wainwright's most interesting article and the ensuing correspondence, the following unpublished information may be of interest.

(1) Early last year a Roman coin stated to have been found near Nairobi was brought to the Coryndon Museum. At the time the find was regarded with some suspicion, but in view of the occurrence of these coins elsewhere in eastern Africa the Nairobi specimen may well be authentic. According to the information given by the finder, Mr. Imbert of the Secretariat, Mogadishu, the coin was found as far back as 1920 at a depth of six to seven feet while a pit was being dug in the garden of a house in Muthaiga, a suburb of Nairobi; the area in question is stated to have been quite undisturbed and never previously dug over. After the interval that has elapsed it is impossible to examine the site or verify the position in which

the coin was found, so that the discovery cannot be accepted unconditionally, but it seems of sufficient importance to be placed on record. The coin has been dated to the third century A.D. and identified as of Victorinus; it is now in the hands of the Rev. M. P. Charlesworth, St. John's College, Cambridge, who has obtained this identification.

(2) Arising out of Professor Piggott's letter in which he mentions the two beads found at the Nakuru Burial Site, there can be no question that the faience bead was imported, but in view of more recent discoveries in the Nakuru area it now appears possible that the agate barrel bead may have been made locally. Over 800 similar beads including barrels, spheroids, discs and oblate discs, made from agate, various forms of chalcedony, quartz and microcline felspar (amazon stone), were found by us during 1938 at a small cave only sixteen miles from the Nakuru Burial Site (the report on this excavation has now been prepared and submitted for publication).

It seems that the culture is a later derivative of the Gumban B, with a comparable microlithic industry, stone bowls, pestles, grindstones and pottery; but it is unlike the Gumban B and other East African Late Stone Age or neolithic cultures in the abundance of stone beads and pendants and in the practice of cremation instead of inhumation.

A sample of the beads was submitted to the late Mr. Horace Beck, who commented on a certain resemblance to Predynastic beads, although he considered that they were not truly comparable and presented a number of unfamiliar features.

The raw materials of the Njoro beads are all known to occur in Kenya; those derived from the basement-complex rocks may be found at a source approximately sixty miles distant, but the agate, chalcedony, etc., occur within the Mau Escarpment itself, where the Njoro cave is situated. Moreover, there are numbers of shallow mine shafts and other superficial workings to be seen cut into the rock in the neighbourhood of Njoro which are clearly of some antiquity. No material of any value is known in the volcanic tuffs of the Mau other than agate, chalcedony and, more rarely, opals, so that it is evident that the mining operations were carried out in search of these stones. The fact that both the beads themselves and the entire range of materials from which they were made are found within the same area, together with abandoned workings, cannot reasonably be regarded as mere coincidence and it seems justifiable to consider the Njoro beads as of local manufacture. On the other hand, it is unlikely that an uncivilized Stone Age people would have conceived the idea of making highly finished stone beads, requiring considerable technical skill, without stimulus from elsewhere. A possible explanation is that a few imported beads were traded to the interior from time to time and that these inspired the local peoples to make copies. If this hypothesis should eventually prove to be correct, it is not impossible that the solitary barrel bead found at the Nakuru Burial Site was one of the foreign beads upon which the local beads were modelled; its association with the faience bead seems to lend support to this view indicating that direct foreign contacts did exist in Gumban B times, although at Njoro there is no such suggestion. According to Mr. Beck's report on the Gumban B bead, the perforation is more exactly parallel-sided than any within the Njoro series, but in all other respects the resemblance is so close that the possibility of local origin cannot be overlooked.

(3) Lastly, in his report on a series of six beads from the Iron Age settlement at Hyrax Hill Mr. Beck compared two blue cane glass beads with the blue glass beads and bracelets of the La Tène period. A third cane glass bead he considered to be 'not more recent than the Roman period' ('Report on the Excavations at Hyrax Hill, Nakuru,' *Trans. Roy. Soc. of S. Africa*, Vol. XXX, Part 4, p. 369). No conclusive statement was made on this series of beads, but it is clear that Mr. Beck considered the likelihood of a Mediterranean origin.

MARY D. LEAKEY

Coryndon Museum, Nairobi

#### A Maori Shark-Tooth Cutting Implement (illustrated)

**88** SIR,—Special interest attaches to a small Maori cutting implement or *maripi* in the Dominion Museum, Wellington, New Zealand. It is one of a number of representative articles of Maori workmanship taken to England by Captain Cook and afterwards sold by auction in London in the year 1819. The *maripi* with certain other articles eventually came into the hands of Lord St. Oswald, who presented the collection to the New Zealand Government in 1911.

The cutting implement is 8.6 inches in total length, the handle being only 2.7 inches, an unusually small hand grip for so important an article. Inset along one edge are a series of five teeth taken from the front of the mouth of the seven-gilled shark, *Notorhynchus pectorosus*; these saw-like teeth from this and related species of shark are fairly common in cutting implements all over the Pacific. The colour of the *maripi* is dull brick red, the hollows being brighter and still showing the original red ochre adhering to the wood. The fact that the *maripi* has been well carved and that it was almost certainly constructed with stone tools gives an added interest to it. Modern Maori carving grew out of this stone tool work; so every Maori carved article of the pre-steel age becomes a type of importance. A general term employed by most tribes to refer to that type

of Maori carving consisting of notches and ridges is *rauponga*. This is in the main the type of ornamentation adopted here; but we find flattened single ridges running parallel and between them a simple type of notching; so simple that each notch consists of a square, or an oblong or similar shape. This is *rauponga* in its simplest form and is undoubtedly the type from which many complicated patterns have evolved. Here and there we notice an elliptical pattern not



seen in modern Maori design and related perhaps to the *unaunahi* or crescentic designs of larger carvings.

The motif for the whole is the representation of a bird-headed man or *manaia*. The eye is at the top of the implement and is of inlaid *paua* shell serrated round the edges. The wooden ridge holding the shark teeth is held at the top in the mouth of the *manaia* and between his unformed hands. The elongate body ends in two curved legs one of which ends in an eye on each side of the implement. Why one foot should end in an eye I cannot say; but the practice of ending limbs in eyes is not uncommon in Maori work. The scroll design at the back of the *maripi* (i.e. to the right of the 'spine') is similar to certain Melanesian patterns, while the upper or shoulder spiral is actually a triple spiral, rarely seen in Maori carving (but more common in face tattoo). It would appear, however, that it suited the space to be filled better in this instance than an ordinary *pitan* or double spiral and perhaps this accounts for its use.

Another feature of more than passing interest is seen in the manner in which the *manaia* mouth parts (to the left of the eye) curl inwards in a spiral fashion, a usage not found in other carved material in the Dominion Museum, or elsewhere to my knowledge. It is probable that in pre-European days there were superior, second-class and inferior carving schools as in all other important branches of Maori culture. The carving of this *maripi* leads me to conclude that it was not carved by an artisan of a superior school.

Dominion Museum, Wellington, N.Z.

W. J. PHILLIPPS

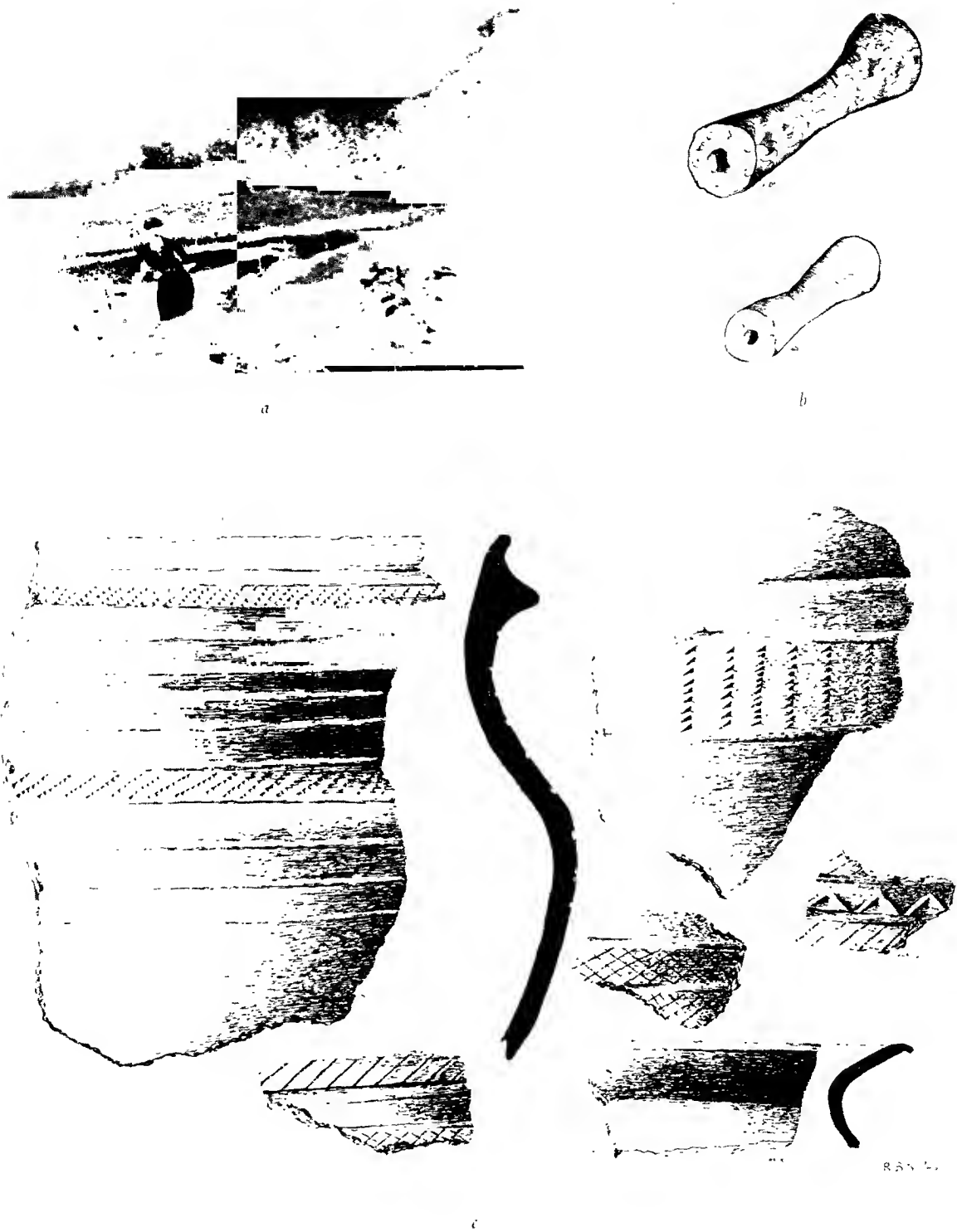
#### Ichi Scarification among the Ibo. Cf. MAN, 1948, 1

**89** SIR,—May I point out an apparent error in Mr. K. C. Murray's recent article on 'Ibo Headdresses combining Human and Animal Features'? He says: 'The *ulaga* are male spirits; this is shown by the carving from Achalla, which has cicatrizations on the forehead like the *ichi* marks worn by men who have taken title,' implying that women do not bear *ichi* marks. I have, however, myself seen women so scarified, and in a forthcoming article on this subject I have given instances and stated the conditions on which women may bear the marks.

M. D. W. JEFFREYS

University of the Witwatersrand, Johannesburg





# EXCAVATIONS AT NSUTA HILL, GOLD COAST

(a) The excavator in the trench ; (b) two beads of hourglass shape, found with a long celt ; (c) potsherds found in the trench

# A REPORT ON EXCAVATIONS AT NSUTA HILL, GOLD COAST\*

by

R. B. NUNOO

*Achimota College*

## INTRODUCTORY NOTE

90 Nsuta lies in a region of densely forested hills about twenty miles north-west of Takoradi, in the Western Province of the Gold Coast. When the forest was cleared from a group of these hills and mining operations were begun by the African Manganese Company, Ltd., prehistoric remains in the form of stone celts, fragments of pottery and other objects came to light on the summits of several of them and were noted and preserved by the mining engineers (notably Messrs. G. R. Millar, D. A. Thompson, N. E. Bose and R. Coward). The late Captain R. P. Wild, Inspector of Mines, took a keen interest in these finds, encouraged their preservation and published descriptions of them in *The Gold Coast Review* (see especially 'The Archaeology of the Nsuta Manganese Mine,' G.C.R., Vol. 1 (1931)). Some of this material was presented by him to the British Museum. He always considered that these sites deserved careful and systematic excavation by an archaeologist, since the use of powerful steam shovels by the Company to remove the detritus rendered any accurate recording quite impossible. The summits of some of these hills had been entirely removed to a depth of 30 to 100 feet when I visited the site in April, 1946, and work was already in active progress on the slopes of Hill C; I was informed that the top levels of this hill would inevitably be removed in the course of the next few months. As this was the last remaining undisturbed hilltop

of the group, I considered it most important that at least one piece of careful excavation, however small, should be carried out before the site, with such human deposits as it might contain, was finally obliterated. I therefore recommended that Mr. R. B. Nunoo, who had had some experience of archaeological fieldwork under Mr. C. T. Shaw, should be given facilities for the work, and these the African Manganese Company kindly provided. It was something of a speculation, but amply justified by the results obtained and here described by Mr. Nunoo. Limited though the excavation necessarily was, it supplies the only accurate record of the archaeology of these hills that can ever be available.

Now that the Government of the Gold Coast has established an Ancient Monuments and Relics Commission, it is to be hoped that similar sites will be scheduled for preservation until they can be properly investigated and recorded. Mining operations are imperious and cannot always wait for the spade of the archaeologist; but some degree of co-operation should be possible, so as to secure at least sample records of archaeological sites before they are irretrievably damaged or destroyed. The present situation underlines the urgent need to carry out archaeological surveys, with fully qualified personnel, not only in the Gold Coast but in all our African Colonies.

H. J. B.

## REPORT ON THE EXCAVATION

The visit to West Africa paid by Mr. H. J. Braumholtz in 1946 to advise on the preservation of antiquities has led to archaeological research on one of the hills at Nsuta worked for manganese by the African Manganese Company, Ltd.

### *The Site*

The hill, known to the mining authorities as Hill C, North Crest, is situated about a mile to the east of the railway station (see fig. 1). It rises 450 feet above sea level, although the ledges made at vertical intervals of 20 feet by the miners in the form of rings around the hill have the effect of reducing its apparent height. The present distance from the southern to the northern edge is 310 feet, and that from the western cut to the eastern cut is considerably greater. The vegetation is occasionally cut down and therefore the thick forest that characterizes the region is absent on this hill. One finds what may be described as thick secondary bush dotted here and there with tall, slender trees.

The occasional recovery of such things as celts and pot-

sherds by the miners first suggested that the site might be ancient. The job of finding a suitable site for excavation had already been done before I arrived. A pot was sticking out on the south face about 1½ feet from the surface, and it was the area around this spot that was chosen for investigation.

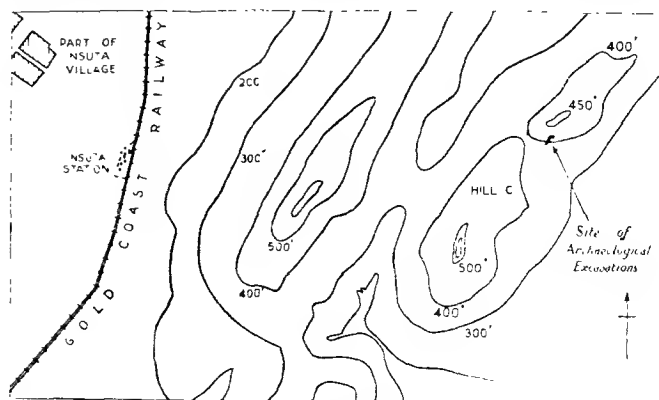


FIG. 1. MAP SHOWING POSITION OF THE SITE  
(Scale: 1,600 feet to 1 inch. Orientation of trench is approximate)

\* With Plate G and seven text figures and an Introductory Note by H. J. Braumholtz, Keeper, Department of Ethnography, British Museum.



### The Trench

A trench 4 feet wide was cut, extending 2 feet on each side of the pot. It ran approximately in a north-westerly direction for 79 feet, then turned north-eastward and continued for 25 feet. Thus it had the shape of an L (see fig. 1). The decision to dig the trench in this shape was reached because of a marked depression near the place where the shorter arm of the trench was to pass. Only six-inch levels were kept. The number of labourers for the dig varied from ten (on the first day to clear the bush) to six, then five, and finally six, and the work took almost one month. But for the rains, which disturbed me a great deal, the work would have been completed in a shorter time. On the second day there was rain just at midday; then followed five sunny, rainless days, after which rain

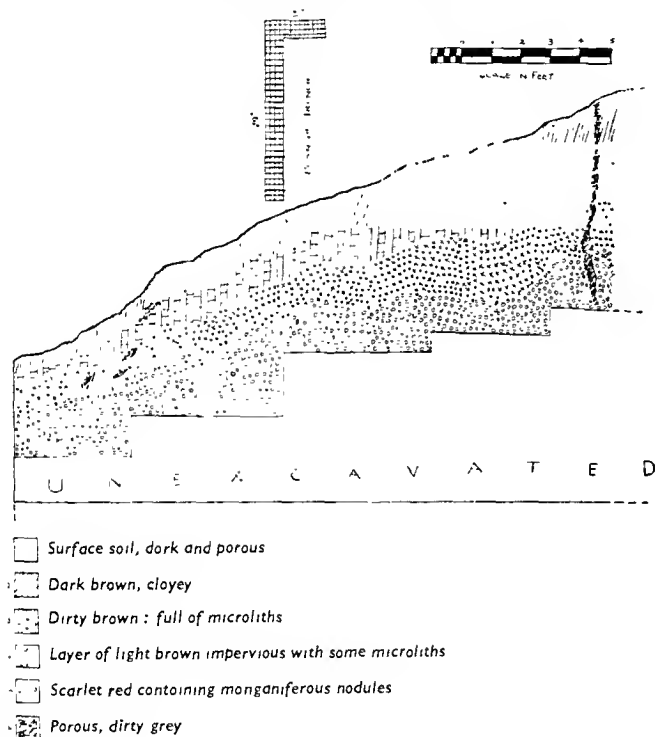


FIG. 2. SECTION THROUGH PART OF TRENCH

fell almost every other day until the end of the work. The heavy rainfall in this region, coupled with occasional clearing of forest on the hill, has subjected the site to constant erosion of surface soil, which has become very thin (see fig. 2). Nsuta is in a heavy rainfall region, an annual figure of about 81 inches having been recorded there over a period of sixteen years, and for this reason any digging there is preferably done in the dry season.

### The Finds

**Microoliths.** Most of the objects found were pieces of quartz, almost all of which are milk-white, although there are one or two crystal-clear pieces. There has not been time yet to sort through the finds, but a preliminary comparison between these stones and those excavated at Bosumpra (now in the Achimota Museum) makes it clear

that a microlithic industry was carried on at this site. A careful examination reveals the technique of working these flake tools, for it is possible to recognize bulbs of percussion and striking platforms on many of them. The implements include blades, discs, scrapers, points, cores and flakes (see fig. 3). There were very many large cores, the largest weighing about 1 pound 7 ounces.

**Celts** (fig. 5). Eight celts more or less complete and six broken ones (with no cutting edges) were found associated



FIG. 3. MICROLITHS EXCAVATED FROM THE TRENCH

with the microliths. Their lengths vary, and they are all comparatively small, the longest being about  $4\frac{3}{8}$  inches and the shortest about  $1\frac{1}{8}$  inches. Two of them have oblique cutting edges (Nos. NHE/2 and NHE/8), a special form probably indicating a special use; the others have curved or square edges. In some the butts are rounded, in others conical; in some cases they are broken. Ten are faceted, the facets themselves varying in width, whilst the rest are oval or cylindrical in cross-section.

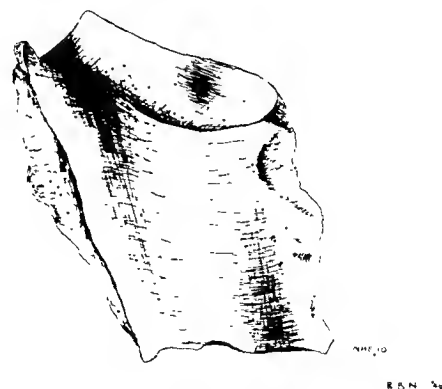


FIG. 4. 'GRINDING STONE' FROM THE TRENCH

**Grinding stones.** Some other interesting stones, recovered mostly from a depth of between 1 foot and  $3\frac{1}{2}$  feet are what the late Captain R. P. Wild called 'portable grinding stones' or 'hand hones.' He describes them at some length in *The Gold Coast Review*, Vol. V, No. 1, p. 153. Eight of these, which appear to be broken, were unearthed; the largest weighs about 12 ounces and has grooves on both surfaces, as have most of the rest. These are not unlike the two specimens in the Achimota Museum, one from Nsuta

and the other from Cayco Concession. The only difference is that those from the present dig are smaller and therefore handy enough to be carried about. The fact that they are associated with celts suggests that they were used for sharpening celts and probably some other stone implements. Fig. 4 shows one of them.

*Rubbing stones.* Four of these were recovered, one of fine-grained ferruginous sandstone, which appears to have been used a great deal, and three others broken. Two of these are of milk-white quartz, and the other of biotite granite. They came from a depth of between 1 and 3 feet.

*Hammer stone.* This was recovered from layer 6. Its shape is not perfectly spherical, and its very rough surface suggests that it was not completed. It is of white quartz.

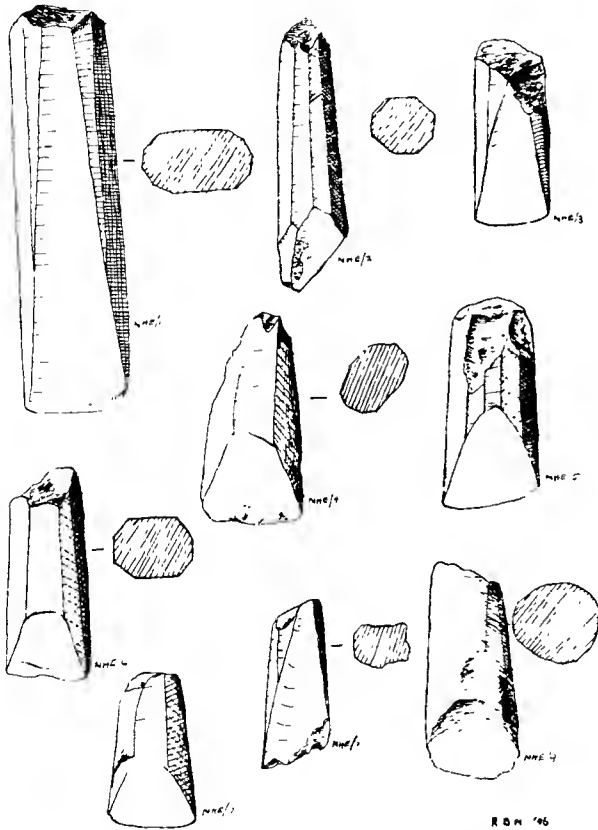


FIG. 5. CELTS FOUND IN THE TRENCH

*Rough-outs.* A few of the greenstones recovered show signs of having been partly worked into implements. One has one side rubbed down to a sharp cutting edge. Another seems to have been abandoned in the course of preparation as being too gritty.

*Unfamiliar objects.* I found scattered about the trench small pieces of hollowed objects, some oval in shape and others circular. The materials from which they are made are not identical: some are of hard grey stone, others—the one from Hill D (fig. 6) described below being an outstanding example—of soft pinkish stone.

*Material.* The material used for almost all of the microliths is milk-white quartz, which is abundant in most parts of the country. Although it is fairly easy to say that a piece of quartz has been worked into a particular kind of imple-

ment, it is difficult to determine the character of working in it. The light, laminated greenstone found associated with the microliths and the celts much resembles the specimens in the Museum of Tarkwaian type.

*Pottery.* Most of the pottery recovered came from depths of 1 to 3½ feet. It has beautiful and elaborate patterns which bear no resemblance whatever to any of those found on modern pottery in the Museum. The colour varies from light to dark brown. On most of the fragments it is very



FIG. 6. UNIDENTIFIED HOLLOW OBJECT OF SOFT PINKISH STONE FROM HILL D

difficult to recognize the decoration because it has been badly disfigured or effaced by the wet soil in which they were embedded. The wet soil accounts also for the pots crumbling to small pieces. The decorations are mostly in the form of grooves, usually horizontal, and separated by short oblique incisions. One kind of pattern typical of Nsuta pottery consists of parallel triangular grooves, in close-set rows, pointing upward; they are usually horizontal or vertical. These resemble closely some pots in the Museum recovered from one of the mounds in the



FIG. 7. POT WITH FIVE HOLES IN LOWER PORTION

Akwapem district, the only difference being that on those from Akwapem the patterns are usually on the rims, whilst on those from Nsuta they may occur on any part of the body. Also the Nsuta type has deep undercut rims, whereas the Akwapem type is just turned inwards. Another pattern which may also be likened to some of those from Akwapem consists in a cross-hatched design bounded by grooves and 'crinkled' cordons, usually on a plain background. Some pots—all from Obuasi—in the Museum, presented by Mr. A. K. Anku, an old boy of the

College, have some resemblance to the Nsuta type in the way the rims have been made, and in the kind of clay used. The thickness of the largest fragment is about  $\frac{1}{2}$  inch, and that of the smallest about  $\frac{1}{16}$  inch, considerably worn down and showing no decorations at all. Plate G, c, illustrates some of the potsherds; their rough surfaces may be noted.

#### Other Specimens

In addition to the objects actually excavated by me some other specimens from Hills A, B and C (South Crest) were given to me for the Museum by Messrs. W. B. Wilcox, J. J. Dunnill and Hugh Thomas. These comprise potsherds, three celts and two objects presumed to be beads.

The potsherds are much larger and show clearly more varied decorations; this may mean that they were found during the dry season. They were recovered from a depth of between 1 foot 9 inches and 2 feet, from 380 feet and 420 feet levels. Two are almost complete pots and were probably for keeping small objects or for storing water, and another is a complete pot (or possibly lid for a pot) lacking the main aperture but having five small V-shaped holes in the bottom part (see fig. 7). A shallow ladle with its handle broken is included; this is elongated, its length being  $3\frac{7}{16}$  inches and its greatest width  $2\frac{9}{16}$  inches.

Two of the celts are small and very much like those from my dig, but the other is exceptionally long, about  $13\frac{1}{2}$  inches, showing nineteen facets, and has both ends sharpened. It was dug from Hill B at a depth of 2 feet.

With this long celt were found the two supposed beads, of hour-glass shape, and resembling a kind of Hausa drum (Twi name, *dono*) played mostly by Nigerians (see Plate G, b). The larger is  $2\frac{7}{16}$  inches long, constricted at the middle and widening towards the two ends: the diameter of the ends is 1 inch, that of the middle about  $\frac{3}{8}$  inch, and the diameter of the hole is  $\frac{1}{8}$  inch. The colouring is mottled light brown and dark grey, closely resembling that of some beads in the Museum from ancient burials on Yakau hill near Sankro in Agona-Dixcove. These are very highly venerated, and it is suggested that they are made from

some 'holy' or fetish rock. The smaller one is in crystal-clear quartz and of the same shape. Its length is  $1\frac{7}{8}$  inches, the diameter of the two ends  $\frac{11}{16}$  inches, that of the middle about  $\frac{1}{2}$  inch, and that of the hole about  $\frac{1}{4}$  inch. They may have served as ornamental beads.

Mr. S. A. Acquaye dug from Hill D, North Crest, at a depth of between 4 feet and 6 feet a broken object difficult to identify (see fig. 6). It is oval in shape, pink in colour and of a very soft material. It has a depression in the centre, the diameter of which is  $1\frac{3}{4}$  inches; its thickness is  $\frac{1}{2}$  inch and its height about  $3\frac{1}{2}$  inches.

#### General Remarks

The finds are all preserved in the Achimota College Museum and will be exhibited as soon as the necessary work has been done on them.

Considering the number of objects found on Hills A, B and D and their highly interesting character, it is quite likely that if careful digging had been carried out on these hills (now removed for their manganese content) some useful information might have been obtained to correlate with the results of the present dig. It is interesting to note that there were practically no finds at all below  $3\frac{1}{2}$  feet. This suggests that it is not very long ago since they were deposited. I therefore decided not to dig below 4 feet in the most promising parts, and elsewhere to vary the depth according to the number of finds. In consequence I found that in the end I had almost got the floor of the trench into steps. I must point out in passing that there were small manganiferous nodules amongst the things recovered, especially from layer 4, and this may account for the dirty black colour assumed by some of the implements.

At present I feel that the finds do not provide sufficient data to establish their age, apart from the fact that all the implements recovered are neolithic and therefore all their 'associates' must also be neolithic. I hope that geological experts may be able to determine the age of the site from the formation of the strata (as shown in the zoning plan, fig. 2) and other evidence.

## THE PALÆANTHROPI IN ITALY: THE FOSSIL MEN OF SACCOPASTORE AND CIRCEO

### PART II: DISCUSSION AND INTERPRETATION\*

by

PROFESSOR SERGIO SERGI

*University of Rome*

91 The men of Saccopastore are Palæanthropi who inhabited Latium during the Riss-Würm interglacial. Other Palæanthropi living at the same period in Europe are represented by the Krapina and Ehringsdorf

finds, and in an antecedent period by Steinheim. All differ from one another and from Saccopastore, so that Europe was inhabited at this time by various types (races or species) belonging to a complex that, in the common use of the word, and in the widest sense, is called Neanderthalian. In the next period, that of the last (Würm) glacial, there were living over a large part of Europe the Neanderthalian

\* Communicated to the Royal Anthropological Institute, 17 April, 1946. With three text figures. Part I (Introduction and Description) was published in MAN, 1948, 75.

Palæanthropi, who bear an extraordinary resemblance to one another in their morphology and great cranial capacity, e.g. the fossil skulls of Neanderthal, La Chapelle and Circeo, among others. Their morphological and metrical resemblances include many that are seldom found even in large series of modern skulls of the same race. In my opinion, they constitute, in the more restricted sense of the word, the typical Neanderthals, and therefore it is right to restrict to them the denomination 'Neanderthalian,' because the Neanderthal calotte belongs to their group. They establish the presence of a terminal branch of the great palæanthropic complex that disappeared in the last glacial. In that branch, by progressive reduction of variability, a strict uniformity was reached, and con-

in both. The evolution of the vault in Saccopastore I is shown by its higher frontal angle. The vaulted form of the occipital bone in the median plane lacks the characteristic bulge of the Neanderthalian of the glacial period; it has also a higher cranial index. In these last particulars Saccopastore approaches the Krapina series of similar antiquity. On the other hand, in Saccopastore I and II the evolution of the face is traced by the wholly phaneranthropic dentition, whereas the Krapina teeth are characteristically macrodont. There is a wide variability in the Krapina forms which suggested to the discoverer that they represent various races. The same variability is detected also in the two Saccopastore skulls, particularly when we take into consideration the different form of the cranium; in Saccopas-

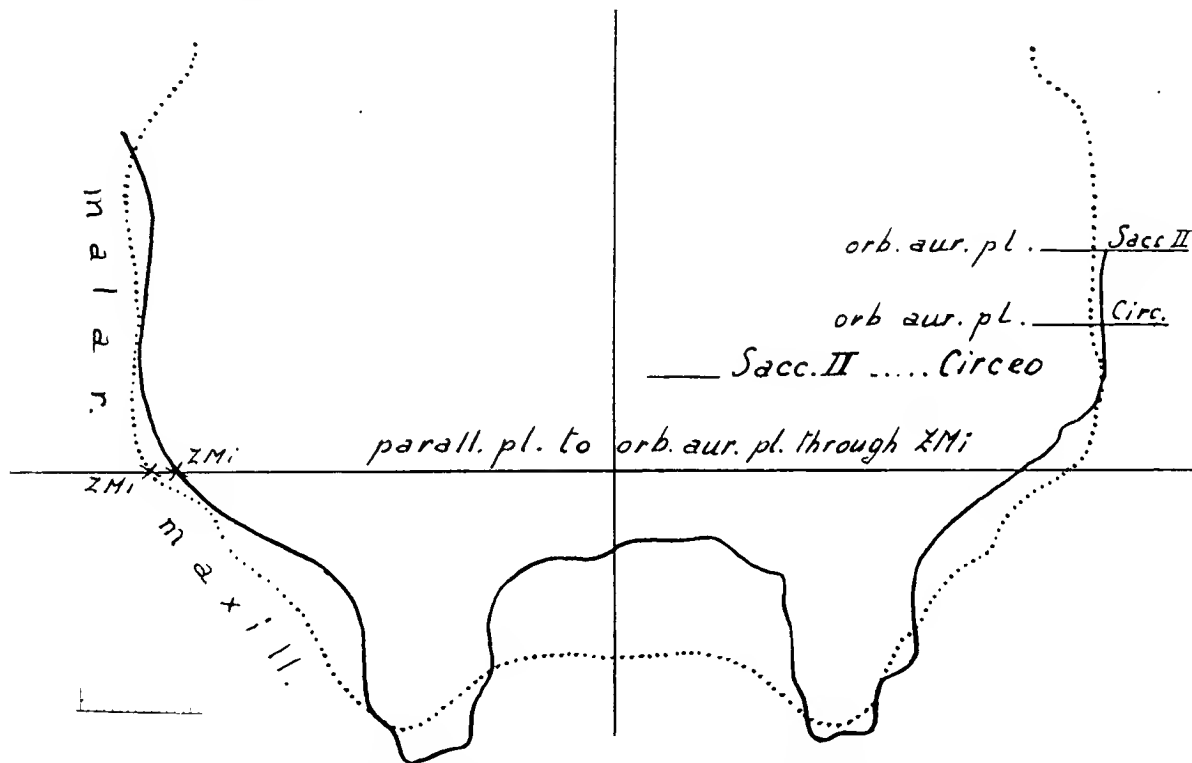


FIG. 1. FRONTAL CRANIOGRAMS OF SACCOPASTORE II AND CIRCEO

Superposed through the zygomatic maxilla inferiora (zmi) parallel to the standard horizontal plane (orb. aur. pl.). The zygomatic (malar) segment below this plane is notably higher in Saccopastore II than in Circeo. The maxillary segment is curved in Saccopastore II and not in Circeo

sequently a stage of extreme fixity that signalled the extinction of the species.

The men of Saccopastore, Krapina and Ehringsdorf, all of the Riss-Würm interglacial, possess a combination of characters of varying evolutionary value, and are separated in a special manner from the Neanderthals of the Würm glacial; while, on the other hand, they exhibit a wide polymorphism. Some of those characteristics are primitive, e.g. in Saccopastore I the extreme platycephaly, the small cranial capacity and, in the facial skeleton, the particular morphology of the alveolar region. Thus the Saccopastore skulls appear more primitive than the Neanderthal specimen, but, on the other hand, they are distinguished from other Neanderthals by the more advanced architecture of the cranium and the accentuated flexion of the base

tore II the posterior occipital region was apparently prominent, and the cephalic index is, in my opinion, somewhat lower than that of Saccopastore I. Many other combinations of characters are found in the Ehringsdorf skull, which, although its primitive general aspect recalls that of the Neanderthals, should be considered as a transitional form to recent man. The rapid rising of the forehead and the strong curve of the whole anterior section of the calotte put it far from the Neanderthalian. On the other hand, it approaches the latter in the strong orbital torus, the wide face, the occipital torus and the shallow mandibular fossa. The more ancient Steinheim skull can also be used for a comparison of Neanderthalian characters with those of modern humanity.

A fundamentally distinctive character of the Hominidæ

is the specific cerebral evolution which is revealed morphologically by the size and structure of the encephalon. We must admit that, during the various phases of their formation, the Hominidæ have presented various stages of progression towards this cerebral evolution, which has been accompanied by other specific characters. On account of these characters the development of erect posture was possible. In the different human branches the evolution of the brain has reached different limits, that is to say, the process of encephalization has manifested itself diversely in the various types of men, in some more quickly, in others slowly, while all the other human attributes were organized correlatively, each with its own rhythm, in one type delayed and in others accelerated relatively to the rhythm of cerebral evolution. During the transformation of an organ so complicated as the brain the numerous necessary modifications have not continued in a single order, in constant harmony with the order of the other variations. The simultaneous modifications as reciprocal adaptations have developed in fields of different variations, so that the evolution of the various European Palæanthropi was polytypic, following any order more or less reconcilable with the functional utility to be fixed by the new modifications. Thus we can explain the parallel variations of related groups by the principle of selection of coincident variations, and also the more precocious rise in one group rather than in another of a variation of different value in the struggle for existence. A certain number of potentially existing characters or tendencies have become fixed sooner and more completely in one group than in another. The typical

evolution of the cranium appears delayed and insufficient, so that a perfect equilibrium of the organs is wanting. Such harmony of correlative development is a necessary condition for potential further evolution.

Italy has furnished, with the finds of Saccopastore and Circeo, proof of the existence of different forms of

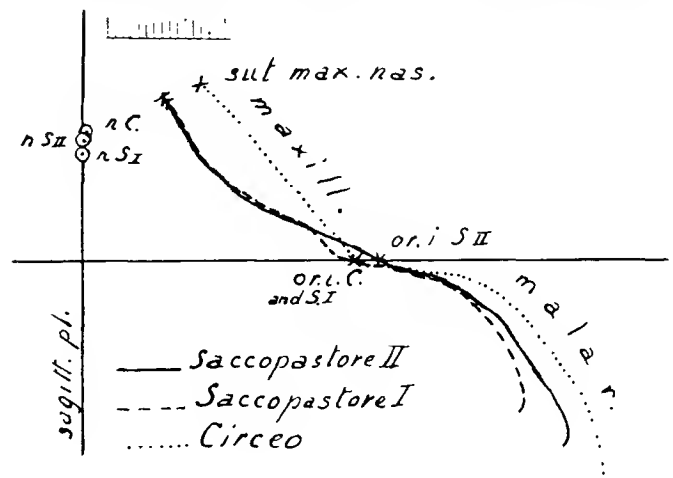


FIG. 3. HORIZONTAL CRANIOGRAMS OF SACCOPASTORE I, SACCOPASTORE II AND CIRCEO

Superposed through the orbitalia inferiora (or.i) parallel to the standard transverse plane. The positions of the nasion (n) and of the naso-maxillary suture are also indicated

European Palæanthropi belonging to different ages. Saccopastore is an interglacial man; Circeo is the glacial man. In the interglacial period an extensive polymorphism exists, represented by several branches. Among these, it is possible to trace the ancestors of some of the phaneranthropic races. In the glacial there survives a terminal branch of that large race represented by the Neanderthals of great cranial capacity. Both the types found in Italy have disappeared, but one of them, the typical Neanderthalian of Circeo, ended without any direct continuity with the Phaneranthropi, while the Saccopastore men, though they appear more primitive owing to their characters and their age, are nearer to the evolutionary line of the Phaneranthropi. If some genetical relation between the Palæanthropi and Phaneranthropi is admitted, one may think of a connexion with the Saccopastore types. The genetics of population can furnish a guide to the condition in which the fossil finds of the European Palæanthropi appear to us, marking what results from the analysis of the possible mechanism of micro-evolution, and keeping present the dynamic thought that race and species are biologically processes of continual transformation (Dobzhansky). The best proof of the dynamic principle, on which we have to conceive the distinctions of species and varieties (races), and which does not permit a rigid division into absolute categories of these entities, is given by the variability of the types which are met in the series of the European Palæanthropi in their chronological and geographical distribution, which is polymorphic in time and space; so that we observe a true fluctuation of the characteristics of the types of the

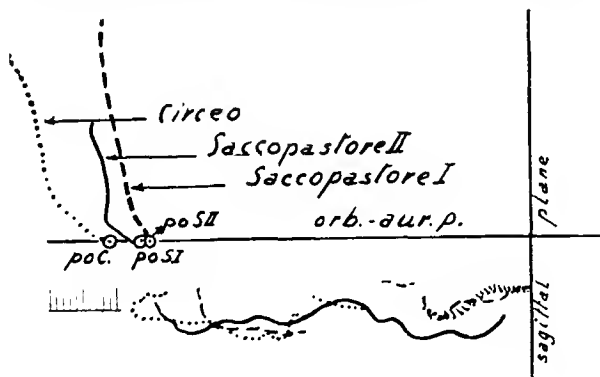


FIG. 2. FRONTAL CRANIOGRAMS OF SACCOPASTORE I, SACCOPASTORE II AND CIRCEO

Superposed through the poria (po), i.e. in the standard transverse plane. Circeo is wider than Saccopastore I and Saccopastore II

Neanderthals of the last glacial possess characters which appear in the group of the Middle Pleistocene Neanderthals at the end of their evolution, viz. in the stage of the *parame* (Haeckel's term) or decline, represented by the terminal increase, which brings into a definite architectural and specific system the cranium of the group in question. The size of the brain is enormously increased, and it reaches a volume which is superior to the average of the best endowed human races. The Neanderthals of the last glacial constitute a series in which a particular evolution of the brain has been reached precociously, while the

population. As regards phylogenetic problems, the palæanthropic finds are phenotypes of populations geographically and ecologically different. Their comparison constitutes a comparative analysis from which it is possible, in a theoretical and hypothetical way, to reach a sense of direction in regard to their systematic position. The difficulties of perfectly delineating the confines of the races and subspecies of the palæanthropic population are multiplied by the extreme scarcity of the finds, so that we are obliged to consider as examples of the group an inadequate number of individuals. The genetical criteria of the basis of systematics should constitute a foundation for the determination of the fossils, and this could not be effected only by the application of modern genetical methods. But this basis of direction gives formal or artificial results, in consequence of the insufficiency of the concrete and necessary data for a positive setting of the problem. As a matter of fact, not only the data of experience and of a physiological order that the living offer, but the objective data also are partial; they are furnished by the very remains which, in part only, represent the body of the individual, and they often give incomplete knowledge of its complex morphological organization. It is fundamental for classification to fix the distinctive characters by which we identify the types. When one speaks about characters there is the greatest uncertainty as to their value and significance, since the term 'character' is used with 'elastic meaning' (Osborn). But if we intend to refer more rigorously to genetics, we do not know with which unities of genetical order those that we name 'characters' chosen empirically should be identified. We do not know what is their genetic consistency, more or less complex for the factors on which they must depend and to which they are bound. From this comes the equivocal use of the term 'character,' sometimes as an equivalent of a genetical term, sometimes as an index of a morphological and physiological entity, more or less complex in relation to its genetical connexion.

If the scarcity of the fossil finds naturally constitutes the greatest difficulty for a wide demonstration, their particular diversities are themselves strongly presumptive of a likely interpretation of the evolutionary phenomenon. The types considered are the examples of a 'rising fluctuation,' with which we can explain the dynamics of the development of species and varieties; their diversities should correspond to local mutations of circumscribed genetical centres. The manifoldness of these different forms has favoured the conservation and diffusion of the species in the period of *acme*, of maximum flourishing or apogee. Their exuberant vitality manifests itself in divergent

directions, and not in a single series. The process does not continue regularly, since it is subject to the 'different and variable,' forces in opposition, so that the characters in their hereditary succession either combine in various manners, or reduce themselves and disappear, or remain submerged and latent, to reappear in other situations. It is thus the original multiplicity of the living forms of a type endowed with particular attributes of vitality which conveys the evolution of the same aim from their appearing in a frame of variability, the more diffused and the more powerful the initial capacity for adaptation. So I conceive a great polymorphism, a great variability of forms of the Palæanthropi of the interglacial period in the enormous spatial expanse of the Old World, and the extreme fixity that is later determined in the residual forms on the eve of their extinction in the last glacial. Saccopastore man is one of the types of the first phase; Circeo man is the type of the last phase of the great palæanthropic complex.

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## SHORTER NOTES

**The Religion of the Witches.** By Miss Margaret A. Murray, D.Lit. Summary of the im Thurn Memorial Lecture delivered before the Scottish Anthropological and Folklore Society, at Edinburgh, 2 April, 1948

In her lecture following the annual dinner of the Society, at which the President, Professor H. J. Rose, St. Andrews University,

presided, Miss Murray said that the so-called witches of the sixteenth and seventeenth centuries, so far from being miserable old women falsely accused of evil practices, were actually members of that ancient pagan religion whose organization and beliefs underlay a veneer of Christianity. The struggle between the Old and New Religions is seen in the successive legal enactments increasing

in severity against the Old Religion and in favour of Christianity. Then came the trials, in which the Church was at first defeated but, with the increase of power, was finally able to suppress its rival by torture, the gibbet and the stake. The members of the Ancient Cult, stigmatized by their enemies as 'witches,' put up a gallant though losing fight, and even to the end there were many who died rather than betray their God. The main dogma of the Old Religion was the belief that God was incarnate in a living human being, usually a man. In primitive times each district had its own deity, as was the case in Palestine in the time of Jeremiah ('According to the number of thy cities are thy gods, O Judah'). Each God had a Coven or body of twelve men and women who formed a kind of priesthood, and it was only the members of the Coven who were brought to trial when the Christian Church, Roman or Reformed, was bent on crushing the paganism in its midst. The doctrine that a living man was actually God to whom blind obedience was due had no evil effect as long as that man was of good heart and principle; but when the human God used his power for his own private ends the effect might be disastrous. This is clearly seen in the Scottish records in the lives of James Hepburn, Earl of Bothwell, and his nephew Francis Stewart, also Earl of Bothwell.

### **The Anthropological Survey of India : Part II, The Five-Year Plan.\*** Communicated by Dr. Verrier Elwin, Deputy Director

The Five-Year Plan of the Anthropological Survey has been drawn on broad and comprehensive lines, keeping in view the development of the science in Europe and America, and the lines of investigation proposed can be grouped under the heads of Physical, Biological, and Cultural.

#### I. PHYSICAL ANTHROPOLOGY

##### (a) *Somatology, Craniometry and Osteometry*

(i) *Palæontological work.* The occurrence of such early forms as *Sivapithecus* and *Ramapithecus* suggests the possibility that further exploration may discover pre-human remains similar to those found in China, South Africa and Java.

(ii) *Prehistoric survey.* In this work close collaboration has already been established between the Archaeological and Anthropological Surveys. Many human remains discovered by archaeologists at Mohenjodaro, Harappa, Taxila, Ujjain and prehistoric sites in Central and Southern India have already been handed over to the Anthropological Survey for study; and there are opportunities for joint research by the two departments, as for example the excavation of such cave sites as are suspected of having been inhabited.

(iii) *A survey of present-day conditions.* The collection of somatometric and osteometric data regarding the whole population is of great importance. This study will include the examination of the skeletons of the existing population by means of X-rays.

##### (b) *Radiological Work*

The Survey is undertaking the examination of the skeletons of individuals of known age and the radiological examination of living people in order to determine the age at which the bones of the skeleton attain their final mature form or other difference in their maturation, proportional lengths, general configuration, and adaptation to such habitual postures as squatting. A very good beginning was made by the Royal Asiatic Society of Bengal and by Dr. John Anderson, the first Superintendent of the Indian Museum, to whom we are indebted for our present collection of Indian crania. A systematic attempt will have to be made to

collect authentic crania and other bones from our hospitals, burial mounds and river beds; and a well planned research has to be undertaken on the skeletal variations of Indians, comparison with races of other parts of the world and their linkage with the inhabitants of the past, and how far variations have taken place owing to miscegenation and changes in environment. On the applied side such a study will furnish extremely important data for the maturation of bones, to be used for medico-legal purposes in the determination of age. As Professor Wingate Todd's elaborate studies in the United States have shown, the norm for maturation of bones differs in different races, and unless this is established separately for various ethnic units, no deduction can be scientifically drawn from results of the study of one race to another.

#### II. BIOLOGICAL INVESTIGATION

In recent years investigations in the general biology of the human race have made vast strides in Europe and America and this is regarded as an essential part of anthropological research. It includes such factors as the rate and pattern of growth in different races, differences in the metabolic behaviour of people owing to differences in protein-intake and climatic conditions, variations in the sex ratio and differential rates of fertility, differences in vital capacity and psychological behaviour in different races, etc.; and human genetics, including serology, normal range of variability in man, hereditary defectives and anomalies and malformation, effects of inbreeding, hereditary basis of criminal propensities, feeble-mindedness, hereditary characters of palmar pattern and other tests in dactyloscopy for detection of criminals, etc.

The whole of this subject is of an applied nature, and is of great importance in the formulation of a sound policy for raising the physical standard of the population and creating a public opinion in favour of measures for controlling the multiplication of congenital defectives and hereditary criminals.

In India very little has been done so far in the study of the rate and pattern of growth of the different racial groups, which depend not so much on single factors like weight as on 'the rebuilding of the whole body' expressed in the changing proportions, in progressive ossification, in manifestation of secondary sexual characters, conditioned, as recent studies in America and Japan have shown, partly by environmental forces and partly by racial factors. There is some suggestion of a quicker tempo of succession and early maturity in tropical countries, but the influence of size and stature inducing a longer period of intensive growth is noticeable among taller races. We need reliable data on controlled groups of samples of children, over a number of years and among different sections of the Indian people, and only when the ethnic patterns of growth are known are judicious improvements in diet and introduction of athletic sports likely to be most effective. Similarly we have no figures for basal metabolism for any race in India except those collected by Mason and Benedict of America in South India and on vital capacity by Mason, both showing the mean values of the index to be below that of American women. It is necessary to establish the norms for the different Indian races and find out whether the differences from European standards are due to morphological or physiological causes.

Researches in human genetics will involve collection of pedigrees of hereditary defectives and fieldwork and laboratory studies on twins, effects of race-crossings in the contact zones among different ethnic groups, the harmonic and disharmonic nature of the crosses, hybrid vigour and hybrid sterility, etc.

The marriage customs of India, so varied in the different parts of the country, require a thorough study in the light of the modern concepts of genetics; and such questions as the biological effect of cousin marriage, of caste endogamy among small groups, etc..

\* For Part I see MAN, 1948, 79.



should be investigated. We have very little data on the hereditary nature of anomalies and criminal traits among Indian races, although in Germany the entire resources of the Kaiser Wilhelm Institute for Anthropology were devoted to these researches before the war.

### III. CULTURAL STUDIES

The acquisition of correct and adequate knowledge of the social and religious institutions in a country ethnically so diverse is not only of scientific importance but of the utmost practical value in administration, as well as for ensuring fellowship and understanding among the population. Racial prejudice and communal animosities breed on ignorance, and the surest method of stopping them is by developing appreciation of the habits of life and modes of thought of others. Unfortunately we have very little objective knowledge of the institutions of the tribal peoples or of those of the various progressive groups, and until this is acquired all disruptive forces born of ignorance and prejudice will have full play in the hands of interested persons. In the case of the primitive tribes the necessity is even more urgent, as the disintegrating forces of civilization are in full operation, with the result that among many the tribal institutions and authority have been greatly weakened and their tribal life broken. Experience in America, Africa and the Pacific islands has shown that nothing is so harmful to primitive races as the loss of interest in life, as a result of failure of adjustment to rapid changes brought about by civilization. In this country we are on the fringe of this problem; in some cases, as among the Andamanese, the Todas, the Chenchus, the Kadars and the Lepchas of Sikkim, the lethal forces are already at work and rapid depopulation is taking place. No more time should be lost, therefore, in acquiring as comprehensive a knowledge of the tribal institutions as possible before they disappear, not only so as to ensure justice in administering them but also to guide us in formulating measures for their adjustment to changing conditions.

Under this heading the following will be specially studied :

(a) *Primitive economics*. This will include urgent problems of land-alienation, debt, the readjustment of aboriginal methods of cultivation and food-gathering in the face of an ever-encroaching 'civilization,' etc.—problems about which information is constantly required by the Provincial Governments.

(b) *Primitive technology and art*. There is a wide field of research,

at present scantily explored, which may lead to the improvement of home industries and the identification of the tribes which are likely to adapt themselves to the industrial civilization of the future. A proper survey of primitive art is long overdue; it will bring valuable accessions to the Museum, display the artistic capacity of even the simplest people, and suggest lines of art training to be followed in aboriginal schools.

(c) *Primitive linguistics*. Much work remains to be done, especially in the field of tribal languages, in continuation of the Linguistic Survey, which left Southern India untouched. Qualified philologists will make a survey both by script and record of the speech and music of the people, study the social implications of language and continue work on the classification of the Indian tongues.

(d) *Folklore*. The stories, legends and songs of the countryside have not yet been scientifically recorded on a wide scale, nor has their relationship to the classical literatures been adequately established. They have no little value, as indicating the artistic and literary instincts of the people, as illustrating their fundamental religious and social ideas, and as revealing the unity of modern tribal and classical India. On the practical side, it has been found that textbooks prepared from local songs and stories are very popular in village schools, e.g. in Bihar. The officer in charge of this section is a first-rate Sanskrit scholar.

(e) *Primitive psychology*. In recent years psychology has come to be recognized as an essential part of social anthropology, and in India particularly the time has come when the investigator must penetrate behind the bare record of established custom and relationship to its motive and origin. Child psychology has been too neglected by those who would educate the aboriginals. Moreover, the whole of village India is passing through a period of rapid cultural, religious and economic change, and a study of the resultant psychological reactions is essential for a proper administration of the tribal populations.

(f) *Primitive crime and tribal law*. Many tribes follow a local customary law which is at variance with the official codes, and there is often delay and hardship in the courts as a result. An attempt to codify Santal tribal law is now being made by the Government of Bihar, but the matter will be examined by the Anthropological Survey on an all-India basis. The study of the aboriginal criminal is in its infancy and there has been some confusion over the classification of Criminal Tribes.

## REVIEWS

### GENERAL

**La Route des Indes et ses Navires.** By Jean Poujade. Paris (Payot), 1946. Pp. 303, 89 figs. Price 200 francs

94 This is a book from which we are entitled to expect much, judging from the sub-title and the chapter headings. The former states that it is an account of maritime traffic through the gateways of the Mediterranean—the Cape route to the Indies—the areas of navigation in antiquity—the ships of the Orient and the Occident used on this route—the interdependence of the various types of ships employed and the techniques of naval construction characteristic of the shipping concerned.

The eight chapter headings cover the following matters: the organization of the maritime routes of communication found in the Mediterranean at various epochs; the creation, opening, development and occasional closing of the passage-way through Egypt between the Mediterranean and the Far East; the search for, discovery and organization of the Cape route to the Indies, required in order to avoid the control and exactions of Muhammadan power (two chapters); the existence of navigational areas in antiquity and their survival to the present day; the western ships used on the

route to the Indies, *via* the Mediterranean and the Red Sea; the Eastern types of shipping characteristic of the commerce between the Far East and the Indies; and the problem of the interpenetration of the types of ships and of ship-construction in the three principal regions affected—the Mediterranean, the Red Sea, the Indian Ocean and the Far East—due to intercommunication by way of the sea, and the meaning and extension of the term '*Route des Indes*.'

The adequate treatment of these themes is an objective which is urgently required. Unfortunately, the present work, while going some considerable distance towards this end, does not inspire confidence that it has been successfully attained; several glaring instances of what has the appearance of careless writing or proof-reading confront us on preliminary examination. For example, on the title page we are told that the work contains ninety illustrations by the author: actually the last figure is numbered 89. This of itself is a trivial mistake, but when we find others of a similar nature, such as the misspelling on an adjacent page of the name of Commandant Guilleux La Roërie, to whom the last four chapters are specially dedicated, we begin to have doubts.

A matter of real importance is the omission to describe and emphasize the essential difference of origin which exists in Europe between northern and southern ship-construction—the clinker build of the north *versus* the smooth-surfaced carvel build of Mediterranean and Arab technique.

Regarding the illustrations, which purport to be all by the author, many of them are merely simplified line copies of illustrations already well known; among these may be instanced figs. 36 to 39, all from panels in the tomb of Ti at Saqqara, and fig. 43, an Assyrian river craft from the sculptures in Sennacherib's palace at Nineveh. This craft, our author considers, should not be considered as an early type of the *quffa*, but rather as a flat-bottomed, plank-built boat belonging to the same category as those Egyptian boats described by Herodotus as being built up of short lengths of planking owing to the shortage of long timber (other than that imported expensively from the Lebanon and perhaps occasionally from India). This view is, however, debatable, for there is much to be said for the older view that the figure represents the framework of a *quffa* covered by a patchwork of hide, and propelled by oars related in form to those modern Iraqi ones, forked at the outer end, with a short piece of plank lashed across the fork to serve as a rowing blade. Modern representations of papyrus canoes are instanced as occurring on Lake Tchad and on the rivers Shari and Lagone which flow into it. To these may be added the reed balsas of Lake Titicaca in South America and the ambatch craft still to be found on the Upper Nile.

It is noted that the sewing together of hull planking in Africa and the Indies has largely disappeared during the past century concurrently with the facilities afforded by modern commerce for the importation into the depths of Africa of supplies of cheap nails, which enable the hull planking to be fastened more securely to some form of internal framework.

The Ægeans and Phœnicians appear to have been the people who taught the boat-builders of the Nile to construct ships of planks of long-running lengths. We know that the Egyptians permitted 'the peoples of the sea' to establish themselves at Pharos and other places on the coast of the Nile delta; they arrived there in boats built at some of the ports on the coasts of Phœnicia and Greece, the hulls often constructed of cedar and fir from the Lebanon. This technique was foreign to the Egyptians and there is no reason to believe that they practised such a method at any early period—not, in fact, until commerce was well established with Phœnicia. At the beginning of the first millennium B.C., Egyptian navigation was almost entirely fluvial or coastwise in the Red Sea; only very rarely were long-distance voyages made southwards to ports outside the Strait of Bab-el-Mandeb, namely those to the incense land of Punt. The first attempts at long-distance voyaging were undoubtedly carried on in ships built and manned by Phœnicians, as is recorded in the Biblical account of King Solomon's bid to share in the profitable commerce with India which had been initiated by the people of Tyre and Sidon. All these vessels appear to have had their hull planking sewn together almost exactly as the *masula* boats are sewn together at the present day and were the same type of boat which is known to the French of Pondicherry as *chelinga*.

Poujade next devotes some discussion to the age-old problem of how vessels were provided with a number of banks of oars, but nothing of importance issues from it to clarify the difficulties involved except the attention which he draws to the fact that in some instances, if not in all, the rowers did not row seated but in a standing position; if this be so, and it seems proven, then it may be added that the same custom lingers in some localities on the Upper Nile, where I have seen it in operation.

In the following chapter descriptions are given of the craft which maintained Chinese trade with the peoples of India and Indonesia; full weight and credit are given to the excellence of Chinese marine architecture and rig, especially in respect of the battened character of the sails used, the fenestrated form of the rudder, the employment of bulkheads and the general shape of the hull—all of them proved to be scientifically superior to the designs and practices current in Europe until quite recent times. Much attention is devoted to a description of the chief Chinese types used both on the great rivers and on the sea, and these sections are of notable value, for

hitherto our knowledge of these Far Eastern types has been sadly deficient, apart from the valuable contributions made by Mr. A. Donnelly in the pages of the *Mariner's Mirror*. Incidentally, we learn how false is the idea that the Chinese owe much of their skill in ship-design and ship-construction to European tutelage, and also to that of the Arabs (previous to recent times), though it is true that the ancient traffic between China and India and the Persian Gulf had notable influence upon both Arab and Indian methods of ship-construction. The Chinese proved more conservative than either the Indians or the Arabs, who have been and are much more receptive.

To sum up the contribution to our knowledge of the evolution of maritime archaeology made by this work, we say with confidence that it is an extremely useful exposition of the types of shipping which opened up trade with the Indies both from the West and from the East. It is, however, much to be regretted that the author neglects to give full references to the authorities from whom he quotes and omits to provide a bibliography of other works which have been written upon the subjects of which he treats.

JAMES HORNELL

**Principles of Anthropology.** By E. D. Chapple and C. S. Coon. London (Cape), 1947. Pp. xi, 718, 6 maps, 13 figs. Price 21s.

95 On the loose cover of this book is a blurb, which alleges that the authors' 'claim is that, in the *Principles of Anthropology*, they lift anthropology and its allied studies—sociology and psychology—out of the sphere of speculation into that of an exact, mathematical science.' We need not, however, be prejudiced unduly by a boast that is merely blurbal. The book was first published in the United States in 1941, and the present issue was printed there, with the authors' preface of the same year. Since they themselves state that the book is 'an attempt to describe explicitly and systematically the principles of anthropology as we know them in the year 1942,' it would not appear that they are revolutionists at large, though perhaps we may regard them as zealous reformers. Their exposition is based largely on compilation on a generous—even over-generous—scale, and their own chief contributions, demonstrating principles and aims outlined early in the book, are less insistently obtrusive in some sections than in others. Material culture (of which a comprehensive survey is given) is little affected, and it is in the study of institutions (family, political, economic, religious) and of symbolism and ritual (including magic, language, art, games and warfare, money, law, science) that the authors' systematics come into action.

Their purpose is to apply the techniques of the natural sciences to the study of human relations, to discover and describe the essential nature of human functional dependence and to work out objective methods—'operations'—for the approximate measurement of the associated variables. Their intentions and technique go further than this, but only a few hints can be given of how some of their innovations work out in practice. It may be noted that subjective interpretation is the chief fault that incurs their specific condemnation.

The need to include all grades of human cultures in the study of man is emphasized. The processes and results of conditioning are given special prominence, reinforced by a useful account of the controlling nervous mechanism. It is maintained that human relations possess the characteristics of regularity and predictability, thus: 'a man and his wife quarrel under given conditions and the violence of the quarrel and its results can be and are foretold by most of us.' The presence of the man's mother-in-law is given as an example of a 'variable'—assignable to no known scale. 'Interaction' is a key word in constant use, and the 'interaction rate' is offered as the basis of individuality, whilst interaction itself is the basis of the family and of human civilization. 'Equilibrium' is a state which individuals and groups strive to maintain and, after a disturbance, to regain by various automatic or conditioned readjustments. We may quote: 'The equilibrium of a society is itself a state of equilibrium between institutions, which are themselves in equilibrium, and which in turn are made up of the equilibria of individuals.' Essential to the authors' technique of verbal re-integration are many words and phrases that may be said to constitute a new terminology. These are in frequent use, though not to the exclusion

of the more usual language of anthropology. Such are 'origin of action,' 'originator and terminus,' 'interaction rate,' 'pair event,' 'set' and 'set event,' 'tangent institutions,' 'context of situation' and combinations of some of the same and other words. To illustrate: 'Rules of avoidance are automatic mechanisms for keeping the interaction rate low between individuals who would upset the rate of the predominant sets if they were to interact together with too great frequency'; and, 'Among Arabs, the males originate to the females at a high frequency, and the females, as a class of termini in set events, respond to them.'

The use of the time scale is regarded as the basic method of measuring human relations, and it is claimed that the book is both functional and historical in outlook. Much importance is attached to timing in set events (i.e. interaction between three or more people), and Mark Twain, as a lecturer, is called in by quotation to give evidence as to the functional value of the timing of a speaker's pauses. If the authors have not committed themselves to the forlorn hope of making an exact, and exacting, mathematical science of the whole of the study of man, they have at least been urgent in their advocacy of methods and terms making for greater precision, though not for a humanitarian prose style; but we may still hope that the romance of anthropology will survive.

The book has a number of useful diagrams, and elaborate distribution maps such as are usually produced with greater enthusiasm by authors than is given to their study by readers—there is a low frequency of response between originators and termini. It would serve no useful purpose to specify minor errors such as are almost inevitable in a work of so large a scope, which must stand or fall as

a whole; and as a whole it falls to the ground between two stools. It contains a great number of important records and quotations taken from authoritative sources, and it could have qualified as a systematic treatise on Cultural Anthropology. Superimposed and interwoven, however, are the authors' own interpretations, often enshrined in their terminology. For those who wish to understand and do justice to these, there is the fatigue of pushing through a mass of material which, however valuable in itself, will be in large part already familiar to them; whilst the younger student, seeking knowledge plain, will find himself too often baffled by excess of detail and a confusion of tongues. A very much smaller book, devoted solely to the enunciation and exemplification of principles, would have served better what appears to be the authors' primary purpose, but no doubt they would reject the validity of this assumption. In any case, much enthusiasm, strenuous labour, hard thinking—and contrariwise, an embarrassment of verbal infelicities—have gone to the making of the book, which some may think worthy of more sympathetic treatment than is given to it here, and of acceptance as a bold and comprehensive effort to assist the subject to proceed to its doctorate in science.

Whilst it may be admitted that anthropology could certainly find room for more mathematics, the authors have been prudent in resting content with the less stringent psychological mechanics. They have envisaged cultural man as the product of inexorable conditioning, bound in his interactions by categorical imperatives; but even if he is something of an automaton, he may still put his trust in the variables of self and circumstance to keep green his idiosyncrasies.

H. S. HARRISON

## ASIA

**The Challenge of Backwardness: Some Notes and Papers on Tribal and Depressed Classes Policy, with Special Reference to Hyderabad State.** By W. I. Grigson, C.S.I., I.C.S. Government Press, Hyderabad, 1947. Pp. 124.

This small book is the swan song of one of the last of the British administrators who were able to influence the destiny of India's aboriginal population. Though in the anthropological world Sir Wilfrid Grigson is best known as the author of the distinguished monograph *The Maria Gonds of Bastar* (O.U.P., 1938), the main value of his work in India has been the successful application of anthropological knowledge to problems of practical administration. Thousands of tribesmen in the forests and hills of Bastar and the Central Provinces and, last but not least, in Hyderabad State owe him a heavy debt of gratitude, for his scholarly yet realistic appraisal of their special needs and difficulties has made Governments conscious of the existence of an 'aboriginal problem.'

Like his earlier work, *The Aboriginal Problem in the Central Provinces and Berar* (Nagpur, 1944), the book under review deals only incidentally with ethnological problems and concentrates on the various aspects of the contact between backward tribal communities and the more advanced populations of rural India. It is common knowledge that in Peninsular India this contact has on the whole not fallen within the concept of 'benign ethnic relations' in the sense defined by Robert Redfield, but has almost invariably led to a very real clash of interests. In the various papers, reports and diaries

gathered under the title *The Challenge of Backwardness* Grigson deals with most of the practical aspects of this conflict, and outlines a policy for the mitigation of its adverse effects on the tribesmen and the development of aboriginal economy on lines consistent with modern conditions. His ideal is not the aboriginal in the splendid isolation of an archaic and picturesque culture, but the aboriginal capable of holding his own in the economic competition with other populations without sacrificing to material progress the unponderable values of his tribal language and customs. In the tribal areas of Peninsular India isolation has indeed never been practical politics. For unlike the frontier tracts of Assam, where much could be said for maintaining the age-old isolation of the hill tribes and allowing only selected elements of modern civilization to impinge on the indigenous cultures, Middle India and the Deccan have for centuries been the scene of cultural interaction between primitive autochthonous tribes and advanced peoples of different language and race.

In this collection of papers Grigson does not attempt to analyse in detail the mechanism and effects of the gradual acculturation resulting from such contacts on a broad front, but anthropologists will thank him for publishing interesting factual information hitherto scattered over inaccessible official records. Let us hope that the Governments of India and Pakistan will emulate the example of Hyderabad and allow scholars access to the many official reports on the tribal populations of their frontier regions.

C. von FÜRER-HAIMENDORF

## CORRESPONDENCE

### Diodorus Siculus and the Myth of Osiris

**97** SIR,—Concerning the origin of the Egyptian god Osiris, there are, broadly speaking, two rival theories. One holds that he was in the first place a vegetation god, the other that he began as a human king. Mr. G. D. Hornblower, in the valuable studies which he has recently published in MAN, has eventually decided in favour of the former (see MAN, 1945, 38). This seems also to be the opinion of Dr. E. J. Baumgartel in her newly published book *The Cultures of Prehistoric Egypt* (Oxford, 1947, p. 4).

Mr. Hornblower discussed in some detail the views of Kurt Sethe,

who is generally credited with the authorship of the second theory: Dr. Baumgartel thinks Sethe's theory is a 'fantastic story.' Mr. Hornblower treated it on the whole with much more respect, and wisely so; for although Sethe himself apparently claimed no authority for it other than his interpretation of the Egyptian evidence, it is a striking fact that Diodorus Siculus gives prominence in his account of the myth of Osiris to a precisely similar view of the origin of the god.

Diodorus of Sicily appears to have been in Egypt during the year 60 B.C. or shortly afterwards (see the statements in I, 44, 83, 22),

but although he devoted the first book of his *Library of History* to a discussion of the myths and customs of Egypt, he rarely records the results of personal observation. The title of his work shows that he did not profess to do so, and in his preface he clearly suggests that what he has undertaken is no more than a summary and compilation of historical works previously written.

Like Herodotus, he pays a good deal of attention to the legend of Osiris, but unlike him, he does not, fortunately, claim to be restricted in utterance by religious reticence. In his main account of the legend the god is a human king and Isis is the queen who avenges the murder of her husband with the help of her son Horus.

This is the story as they give it. When Osiris was ruling over Egypt as its lawful king, he was murdered by his brother Typhon, a violent and impious man; Typhon then divided the body of the slain man into twenty-six pieces and gave one portion to each of the band of murderers, since he wanted all of them to share in the pollution, and felt that in this way he would have in them steadfast supporters and defenders of his rule. But Isis, the sister and wife of Osiris, avenged his murder with the aid of her son Horus and after slaying Typhon and his confederates became queen over Egypt (I, 21, trans. Oldfather).

He then describes how Isis recovered pieces of the body and incorporated them in as many images of Osiris, which she distributed among the priests, telling each group privately that she was consigning to them alone the burial of the body. They were to honour him as a god, and consecrate certain animals to him. Isis afterwards reigned happily and prosperously and, when she died, was deified like her husband, being buried with him either at Memphis or at Philæ (22, 21).

Before his quarrel with Typhon, Osiris is said to have gained fame as a pioneer in many of the arts of civilization. He and Isis, together with Typhon, Apollo and Aphrodite, were the children of Zeus and Hera, each of the children being born on one of the five intercalary days of the Egyptian year (13). Osiris was the first to stop men from eating each other. For when Isis had discovered wheat and barley growing wild, he devised how to cultivate them (14). Agriculture generally was of great interest to the god; it was he who discovered the vine and first taught mankind how to make wine from it (15), and he also taught his countrymen how to control the inundation of the Nile (19).

Alongside of these lengthy statements of what Osiris did as a human king, Diodorus gives another interpretation of the legend on cosmic and astral lines. He says that the men of Egypt long ago thought that two gods were both eternal and original, namely the sun and the moon, whom they called respectively Osiris and Isis, the first name meaning 'many-eyed' and being therefore a fit epithet of the sun, the second 'ancient,' because Isis was of ageless and ancient birth. Her horns have come from the crescent-shaped moon, and from the fact that the cow was sacred to her. These two gods are held to regulate and sustain the entire universe, 'the sun contributing the fiery element and the spirit, the moon the wet and the dry, and both together the air' (11).

One is reminded by these remarks that the tendency to read Greek ideas into Egyptian religion had become very popular by the time of Diodorus. A desire to equate the two religions and even, in some things, to derive the one from the other, is constantly evident as early as Herodotus, but the Græco-Egyptian cults founded and propagated by the Ptolemies had greatly strengthened the syncretizing tendencies. Isis was now coupled with a new deity Sarapis, and she became a universal nature and mother goddess, being accompanied in the new cult by both Horus and Anubis. Although Osiris was now being replaced to some extent by Sarapis (which is explained as Osir-Apis, Apis being the sacred bull which was regarded as a special manifestation of the god), his importance was still clear to the religious historian, and Diodorus invokes the same facile syncretism to describe his significance. As a result, about half of what he says about the god is derived from what the Greeks used to say about Dionysus. He often expressly identifies the two deities (11, 13, 15, 22, 23, 96), just as he does Isis and Demeter (13, 14, 29, 96), and claims that their rites are the same (22, 29, 96). He admits

that others have identified Osiris with Sarapis, Pluto, Ammon, Zeus and Pan (25), but himself rejects these views. The Greek name of Osiris he explains by the tradition that the god was reared in Nysa, a city of Arabia Felix, and that he was a son of Zeus, this giving Dio-Nysus (15). He is clearly describing Dionysus when he says that the god discovered the vine and the ivy, that he made a joyous procession through Ethiopia, where he met the Satyrs, through Macedonia and Thrace, and even as far as India and other nations of Asia (18-20). The phallic rites ascribed to him are probably those of Dionysus (22), and it is hard to find counterparts from the Egyptian legend for the gods and heroes who are said to fight and govern for him. It is stated that when he left Egypt, he placed Hermes at the side of Isis as chief counsellor, Heracles as general, and Busiris and Antæus as governors, and that he took Apollo his brother with him on his campaigns; he was also accompanied in his campaigns by his two sons, Anubis and Macedon (17-18). Anubis is known to have gained prominence from the Isis-Serapis cult; originally he was a god of the dead, but now he appears simply as a guardian of Isis and her consort (87). By Apollo is generally meant Horus, but it is strange to find him a brother of the god rather than his son. The identity of the others remains obscure.

Reverting to the question which has occasioned this summary of Diodorus' remarks about Osiris, one is struck not only by the emphasis on Osiris as a human king, but also by the explicit reference to his institution of the practice of irrigation:

When Osiris came to the confines of Ethiopia, he restrained the river on both sides with dykes, so that at the time of inundation it might not injuriously form stagnant pools over the land, but that through specially constructed outlets the flood water might flow gently in whatever quantity was needed (I, 19).

Diodorus goes on to say that Osiris travelled through Arabia and went as far as India, where he founded cities, naming one of them Nysa. Here he planted the ivy.

It is interesting to note that Mr. Hornblower, when he maintained the Euhemeristic approach to the god, also stressed the possible connexion with irrigation. In *MAN*, 1937, 186, he wrote:

That Osiris was actually an ancient divine king who reigned in the Delta is now generally agreed among Egyptologists, but the reason for his identification with the Nile flood has not been clearly explained, though it may be quite simple, and, indeed, is very likely nothing more than that he was the originator of the general organized irrigation to which the country owed its extraordinary prosperity.

As we have seen, Mr. Hornblower has since revised his opinion. Does the fact that his previous opinion is backed in some detail by Diodorus invalidate his revision?

It must be admitted, as G. A. Wainwright has stated in *The Sky-Religion in Ancient Egypt*, that the evidence of the Greek writers may often throw light on the stories and cults known to the common people, at least in the period in which these writers lived. Although Diodorus mentions the connexion of Osiris with irrigation in a passage where he is really describing the attributes of Dionysus, it may be that at this point he has seized an attribute which concerns Osiris also, since he mentions the Nile. Dionysus was likewise a fertility god in origin, as E. R. Dodds emphasizes in the introduction to his recent edition of the *Bacchæ* of Euripides. Diodorus transforms him into a human king. It follows that although his statement here may be accepted as late evidence of the fertility associations of Osiris, it is no valid testimony to his human kingship.

A parallel case is the early Egyptian god Min, of whom Herodotus states (II, 4) that he was the human king who reigned at the beginning of Egyptian history. Mr. Hornblower has hinted (*MAN*, 1946, 103) at a connexion between the god Min and the name Menes which was Manetho's name for the first human king of Egypt. Dr. Baumgartel (*Antiquity*, Sept., 1947, pp. 145-50) elaborates a theory about this connexion. But neither author entertains for a moment the idea that Min was originally a human king. The same idea should, it seems, be rejected in the case of Osiris.

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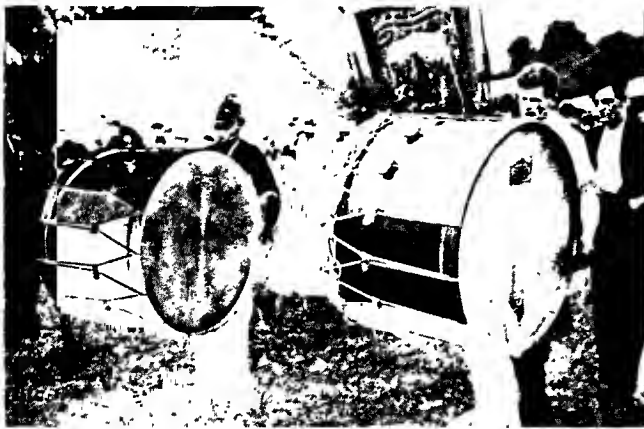




*a.* SINGLE FARM HOUSE



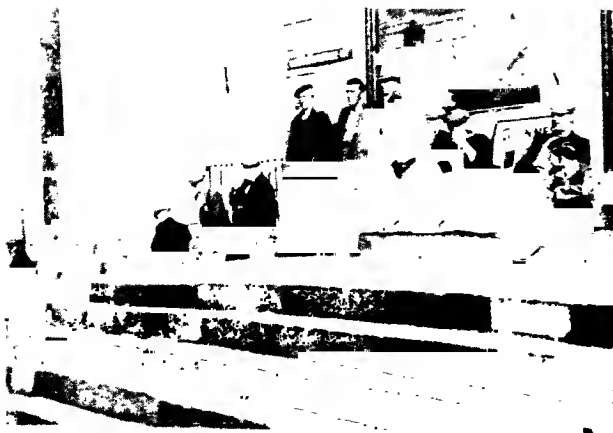
*b.* CATTLE FAIR, 'BALLYDUN'



*c.* DRUMMING PARTY



*d.* SPARE HEAD FOR DRUM



*e.* STREET-CORNER GROUP



*f.* WORKING-CLASS HOUSES, 'BALLYDUN'

## THE COMMUNITY IN NORTHERN IRELAND

*Photographs: J. M. Magee*



# THE COMMUNITY IN NORTHERN IRELAND\*

by

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98 Northern Ireland, often called Ulster, is one of the smallest political units in Europe. Its geographical position at the far north-western edge of the continent has meant that it partakes of the 'outpost' character attributed to the island as a whole<sup>1</sup>; it forms a survival area where types of economies since gone from Great Britain may be studied, and in this fact of the cultural time lag lies its importance to social studies. The fact that the two islands have had a different social evolution, that Ireland, sheltered behind Great Britain, was never part of the Roman Empire, never overrun by the Anglo-Saxons, and indeed, outside of Ulster, never really affected by the Reformation should not be overlooked.

In Northern Ireland today 47 per cent. of the people dwell in the isolated houses of the rural areas and more than half of the towns are purely market centres. In contrast to England, 26 per cent. of the occupied population is engaged in agriculture and this is the most important industry whether judged by this criterion or by the value of the output. Consequently any study of Ulster must emphasize the rural population. Independent family farms and scattered houses were already the dominant settlement pattern in the countryside by the time of the first edition of the Ordnance Survey (*c.* 1830) and have probably become a permanent feature with the setting-up of the farmers as peasant proprietors through successive Acts of Parliament from the late nineteenth century to 1925. The social relations of these farmers and the interrelationships of country and town are the main theme of this paper.

The background from which the present population derives is just beginning to be understood. Modern studies in archaeology are showing the mixed arable and pastoral economy of the large houses, the raths or the crannogs, at the dawn of history.<sup>2</sup> Recent work has tended to identify the small house cluster as a survival of the habitations of the labour force in this society.<sup>3</sup> These 'clachans' have little resemblance to the English village, for they have no shop, school or church to act as social focus. Associated with them seems to be the practice of agriculture in 'runrig' of the Celtic infield-outfield system. Clachans have been identified in western Scotland and Wales as well as Ireland; and if the interpretation of the social aspects of Skara Brae by V. G. Childe be accepted, this must have been the first clachan.<sup>4</sup> The emphasis amongst the scattered farm families of today on kinship ties and the mutual 'cooring' of the hand-work gang of six or eight men are social survivals of this society.<sup>5</sup> Transhumance, or where this has died the communal ownership of the hill grazings, may be another

survival.<sup>6</sup> Arensberg and Kimball give an excellent description of the human interrelationships for a Co. Clare clachan, although they refer to it as a village.<sup>7</sup>

The plantation of Ulster by English and Scottish farmers, following military conquest under Elizabeth, brought a new element to the population. The majority of the immigrants came from the neighbouring counties of low-land Scotland and many of the groups fitted with little difficulty into the subsistence-farming economy native to the countryside.<sup>8</sup> The plantation marked, however, the introduction of regular markets and saw the growth of a network of towns. Later came the linen industry on a domestic scale. Together with the potato, a late-ripening crop, these influences seem to have encompassed the break-up of the older system during the course of the seventeenth and eighteenth centuries.<sup>9</sup>

When we consider the modern community, a distinction must be made between the small farmers and the larger farmers. While 83 per cent. of the independent farms are under 50 acres, the group of under-20-acre farmers (some 42 per cent. of all holdings) constitutes the small-farm group proper. This was the type of farmer studied by Arensberg in Co. Clare as typical of Eire. In the North they reproduce many of the social characteristics which he comments upon, as for example the delicate adjustment of kinship obligations, the high proportion of incomplete families, the use of the matchmaker and the transfer of a dowry at marriage.<sup>10</sup> The small farm in Ulster is hardly ever a working unit; co-operative work is essential to their survival. In south Fermanagh, where arable crops are confined to small plots in cut-over bogs, this 'cooring' is confined to the hay harvest; they say of this country that 'it takes three acres to graze a gander,' a sign of its low fertility. In other places, for example at Hilltown in Co. Down, although co-operation between kinship groups is usual at the important spring ploughing to make up the necessary two-horse team, the character of the horse decides who shall 'join' with whom, and the neighbourhood group is more important in this than the kinship group. The hand-work gang, or *meithel*, has almost gone. Two factors may help to account for this change: first, the great decrease in arable land during the depression years following 1930, and secondly, the introduction of fixed piece-work rates at the outbreak of war. This latter finally swept away mutual assistance between farmers and substituted for it wage-contract labour recruited from other social classes in the community. For while 56 per cent. of the rural-dwelling families are those of farm-owners, the remaining 31 per cent. of country-dwellers consist of varied categories with only some 9 per cent. of families

\* With Plate H. The substance of a communication to the Royal Anthropological Institute, 20 January, 1948.



where the head of the household is a farm labourer.<sup>11</sup> With this transformation of contacts many country dances and parties have gone and the family has become more isolated from its neighbours of equal status. The *ceilidhe* house has disappeared everywhere in the North, although a similar group amongst the unmarried still meets in the Bunk at Hilltown and young men still gather informally on a neighbourhood basis for games and card-playing.<sup>12</sup>

The large farmers of thirty acres and upwards, distinguished by the possession of a two-horse team, are more typical of the areas planted by Protestants in the seventeenth century, although they are by no means absent elsewhere. These farms, 54 per cent. of all holdings in Northern Ireland, produce a great part of the agricultural output and account for 60 per cent. of the acreage under crops and pasture. Farms of over a hundred acres, 4.4 per cent. of the total, may be included with this group. They are family farms as before, but co-operation at busy times and at family crises, while not absent, is not so vital as amongst the small farms. These are the farmers who have been most responsive to the campaigns of the Ministry of Agriculture (N.I.); beginning in 1924 with legislation to control the sale of eggs, these regulations now cover much of the output, and payment by cheque from the Ministry has given the farmer a regular income for the first time in history. Farmers in this group have become more and more conscious of the market and have moved a certain distance from purely subsistence agriculture. The underlying social controls are the same as amongst the small farmers, but in this large farm group greater economic opportunity means a greater variety in response. The matchmaker is gone but the possibility of withholding a dowry still gives some parental control at marriage. The older men live busier and more isolated lives than the small farmers; their meetings are more likely to be at the urban market than in casual *ceilidhes*. The younger age set keep up their neighbourhood cliques with others of a like age from non-farming families, but more and more their activities are becoming formalized into various associations.

Throughout Northern Ireland an association of Protestants, the Loyal Orange Order, unites both younger and older age grades as followers and leaders. This is today a semi-secret society, interlocked in membership with the Unionist political party which has formed the government since 1920. Membership figures are not published, but I estimate the minimum number of adherents at just under 100,000 or about 65 per cent. of the adult male Protestants. The order is organized in local lodges, the L.O.L., with the local neighbourhood unit as the base of the membership. Leaders in rural areas are the older farm-owners, and the younger men form the ordinary members arranged in a hierarchy of degrees after secret tests within the lodge. Two illustrations show aspects of the annual display. Orangemen's Day, 12 July, is a public holiday and several displays take place in each county. Members in their colourful sashes walk behind the lodge banner and the fife and drum band. The giant drums roll thunderously in practice all the spring. After the formal walk along the streets of the village or town which is the local rendezvous

for that year (see Plate H, *d*) the procession of lodges converges on a field, makes a circuit, has a final tune from the band or a short drumming contest between a pair of drummers (see Plate H, *c*) and then disperses, only a handful waiting to hear the speeches of the political and religious leaders on the platform.

The Ulster community is a dual community; if we refer to the 'orange' section, we must also refer to the 'green' section. Almost every association exists in duplicate; thus the L.O.L. is matched by the Ancient Order of Hibernians, a much smaller organization. Their procession day, 15 August, is a replica of 12 July, and only the insignia and the paintings on the banners show any distinction.

Religious affiliation is thus an important social distinction. Three main churches represent the 66 per cent. of the population who were Protestants and it is this, probably, which has thrown leadership in matters concerning Protestants as a whole to a non-church organization. The fact that the single Roman Catholic Church tends to speak for all the 'greens' may help to account for the numerical strength of the L.O.L. as compared with the A.O.H.

The sons and daughters of the farms move into the towns of the province. There has been little emigration or immigration in recent years; 91 per cent. of the population in 1937 were born in Ulster and only 0.7 per cent. outside the British Isles.<sup>13</sup> In 1947, if we omit Belfast and Londonderry, there were thirty-four urban districts ranging in population from 19,338 to 1,247. In sixteen towns factory industry, linen- or garment-making, is of some importance, but the characteristic occupation of the town is shop-keeping.

Like farming, shopkeeping is a family business. Unlike practice in the farms, it is unusual for the shopkeeper to hand over to a successor from within his own family. In the towns I have studied less than 4 per cent. of the shops remain in the same family for two generations and less than 0.5 per cent. for three. Urban craftsmen are more persistent and of these the sweep usually has the longest family record. The successor to the shopkeeper is the apprentice, for shopkeeping is a mystery like any other craft. It often happens that the apprentice marries into a farming family from the surrounding countryside, but this is not so vital in the Ulster town as it appears to be in Co. Clare.<sup>14</sup> Family ties, or at any rate a close knowledge of his customers, were very important, especially before 1939 when long credit was the rule. In recent years the intermittent contacts between countryman and shopkeeper have been replaced by regular visits. Urban trade is tending towards the impersonal exchange characteristic of the city. Strangers, *i.e.* people from other districts, can now set up establishments and flourish; other symptoms of this change are the increasing emphasis laid on window display and advertising.

In the towns a distinction exists between natives derived from the local hinterland and strangers. Each locally derived family forms the apex of an extended kin in the countryside and interacts more frequently and with more satisfaction within that group than with other town

families. The same associations that exist in the rural areas are also important in the market towns; only the industrial towns produce purely urban associations, like chambers of commerce, though this may not be a permanent distinction.

As in the countryside, the two religious groups lead almost entirely separate lives. Shopkeepers claim a fifty-fifty division of trade between religions, but this cannot be substantiated. The 'green' section owns most of the public houses; hardware, drapery and clothing shops are 'orange'; while grocery, butcher's shops and footwear stores are fairly evenly divided. In Ballydun<sup>15</sup>, for example, only one public house out of twenty-four is owned by a Protestant. Cultural, educational and social life is carried on in two watertight compartments. Ballydun, a town of 5,000 people, had four secondary schools, one for the boys and one for the girls of each section. Youth clubs, friendly societies, secret associations, existed in duplicate or quadruplicate. Even street-corner groups (see Plate H, e) are divided into 'our side' and 'their side' at the corners of the central square. This barrier between the two sections is very real and intermarriage is so rare that they can be considered as two endogamous moieties. Regular contacts exist mostly in the political sets, local and central, and usually take the form only of meetings to express differences of opinion.

The community in Northern Ireland, although so divided, manifests certain general tendencies. Economic prosperity and government legislation are isolating farm families one from another; new associations on a wider

than local base are emerging to replace purely neighbourhood groups. Urban trade is moving from personal contacts at long intervals to shopping by price. While the division by religion is still a reality, the community as a whole is evolving, with slow adjustments to its old kinship obligations, to a full market economy.

#### Notes

- <sup>1</sup> G. A. J. Cole, *Ireland the Outpost* (Dublin, 1919).
- <sup>2</sup> M. Duignan, 'Irish Agriculture in Early Historic Times,' *J.R.S.A.I.*, Vol. LXXIV (1944), pp. 124-45, where the evidence is summarized; also G. Bersu, 'Lissue Rath,' *U.J.A.*, 3rd ser., Vol. X (1947), pp. 30-58.
- <sup>3</sup> Emrys Jones, 'Settlement Pattern in the Middle Teify Valley,' *Geog.*, Vol. XXX (1945), pp. 103-11; also O. Davies, 'The Two Mile Stone,' *J.R.S.A.I.*, Vol. LXXII (1942), pp. 98ff.
- <sup>4</sup> See *Scotland before the Scots* (1946), pp. 25-34.
- <sup>5</sup> A. G. Ogilvie and A. Geddes in *Edin. J.* (1940), p. 14.
- <sup>6</sup> E. E. Evans, 'Some Survivals of the Irish Openfield System,' *Geog.*, Vol. XXIV (1939), pp. 24-36.
- <sup>7</sup> C. M. Arensberg and S. T. Kimball, *Family and Community in Ireland*, pp. 181-201.
- <sup>8</sup> T. W. Moody, in *The Londonderry Plantation* (Belfast, 1939), gives the only modern account of this settlement.
- <sup>9</sup> See R. N. Salaman, *The Influence of the Potato on the Course of Irish History* (Dublin, 1940).
- <sup>10</sup> Arensberg, *op. cit.*, pp. 109ff.
- <sup>11</sup> J. M. Moge, *Rural Life in Northern Ireland* (1947), p. 210.
- <sup>12</sup> Arensberg, *op. cit.*, p. 179.
- <sup>13</sup> *Ulster Year Book*, 1947, p. 31.
- <sup>14</sup> Arensberg, *op. cit.*, pp. 296f.
- <sup>15</sup> A fictitious name for an actual town.

## CULTURE STRATA IN THE DECCAN\*

by

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99 Our knowledge of India's prehistory is too patchy to allow us to reconstruct, even in broadest outline, the sequence and movements of Stone Age cultures. Apart from the work of de Terra and Paterson in the terraces of the Indus River<sup>1</sup> and Sankalia's important discoveries of palæolithic sequences in the river beds of Gujarat,<sup>2</sup> there have been few systematic excavations of Stone Age stations, and a chronological correlation of the mass of surface finds is still impossible. Indeed, if India were a country like England or France we would know little about its populations before the rise of those great civilizations at the dawn of the metal age which we connect with Mohenjodaro and Harappa. But it is a phenomenon peculiar to India that throughout the ages great civilizations have risen without obliterating or absorbing all that has gone before: the older, more static cultures gave way not by disintegrating, but by seeking refuge in remote areas uncongenial to civilizations based on an advanced agri-

cultural economy. There can be no doubt that the so-called aborigines inhabiting such refuge areas represent comparatively old and primitive culture types.

Is it legitimate to bring the splinters of ancient primitive cultures into some sort of chronological order? Can they be viewed as links in a sequence, or only as isolated fragments which cannot be correlated with prehistoric successions of cultures? The study of a variety of Indian aboriginal tribes has convinced me that in certain cases such a correlation is legitimate, and that the discovery of parallels in prehistoric and contemporary civilizations can throw light on both archaeological and anthropological problems. The material to be discussed in this context is drawn from the Deccan and the adjoining parts of the Eastern Ghats, which today belong politically to Orissa.

In many parts of the Deccan large numbers of chipped and flaked artifacts, mainly of chert and flint, are found on the surface. It is not yet possible to date these implements or to assign them to any particular geological stratum, but their vast numbers and enormous area of distribution

\* The substance of a lecture read to the Royal Anthropological Institute, 16 September, 1947

indicate that they are the products of a population which inhabited the highlands of the Deccan over a long period. The absence of any signs of polish or grinding among thousands of such artifacts found in a narrow area characterizes them as typologically, though not necessarily chronologically, palæolithic. A people with no implements except these coarse scrapers, points and flakes can only have lived as very primitive hunters and food-gatherers, and it is significant that among thousands of implements of this flake industry there is none which would have enabled man to fell trees except by a most laborious process, or to fashion the large timbers necessary for house-building. The time when these hunters and collectors were the sole inhabitants of large parts of the Deccan must have ended many thousands of years ago; but small groups have persisted in a mode of life which, despite the acquisition of some of the material products of more advanced cultures, resembles in many ways that of palæolithic man.

### *The Chenchus*

The Chenchus in the hills to both sides of the Kistna River are a forest tribe which exemplifies this extreme conservatism. For centuries they have had occasional contacts with pilgrims flocking to a famous Hindu shrine in the heart of their country, and they must have known of the agricultural civilizations in the adjoining plains. But the Chenchus stuck to their primitive jungle life; they adopted the use of iron, but the possession of better implements did not induce them to advance beyond the narrow limits of their original economy. They still live in the forest in small groups of a few families, living mainly on wild edible roots and tubers which both men and women unearth with iron-tipped digging sticks. Occasionally they hunt with bow and arrow, but do not know the use of traps and snares; they barter such jungle produce as wax, honey and resin for plains products like grain.

During the rains and the cold weather the Chenchus make round bamboo huts with conical thatched roofs, but in the hot season, when they migrate in search of water and food, they live in caves and in leaf and grass shelters.<sup>3</sup> Such shelters are probably about the best that palæolithic man could put up with the material available in the forests of the Deccan, and the rock shelters in the Kistna gorges resemble those of palæolithic Europe.

While there is no reason to believe that the Chenchu of today is in every respect a replica of palæolithic man, it is indisputable that economically the tribe has hitherto lived in 'palæolithic style.' This does not imply that the Chenchus' social organization or religious beliefs are those of their palæolithic forbears; when, for instance, they adopted the Telugu of their neighbours to the exclusion of any older tongue, they must have assimilated many new ideas. All Chenchus conform to the Hindu prejudice against eating beef, and many of their stories contain Hindu motifs. But despite such comparatively recent accretions Chenchu culture appears as a residue of the palæolithic cultures which must once have extended throughout the Deccan.

### *The Reddis*

Besides artifacts of palæolithic type, numerous neolithic implements—axes with polished edge, oval cross-section and pointed butt—are found in some areas. Many are rather coarsely shaped and polished only on the cutting edge, and seem to belong to a proto-neolithic industry. None of the more crudely worked axes has yet been found *in situ*, and we do not even know whether they were associated with pottery; but they show that there was at some time a large proto-neolithic population spread solidly over the Deccan. During recent excavations in Mysore, however, Mortimer Wheeler found neolithic axes of similar shape but superior workmanship in a layer immediately beneath and interlocked with a culture of megalith-builders characterized by an abundance of iron implements. Thus the terminal date of the stone-axe culture can be ascribed to the third century B.C., but there remains a lack of stratigraphical evidence for those earlier stages which are of relevance in this context.

Let us consider how in the peculiar climate and landscape of the Deccan the possession of an effective cutting instrument, such as a polished axe, may have improved man's economic opportunities. He could fell trees comparatively easily. He no longer had to live in the forests, but could clear parts of them. This, in any tropical country, is the primary condition for extensive agricultural activity. He could also fashion timber for the construction of houses and large wooden objects.

The Reddis in the hills flanking the Godavari gorge seem to be the nearest approach to this picture of neolithic man inhabiting the forested lands of the Deccan and practising primitive agriculture. Dwelling in small hamlets of little permanency, they seem to stand midway between seminomadic food-gatherers and settled peasantry. Like the Chenchus they subsist partly on wild plants and tubers, but they also raise crops and breed animals. Their agricultural methods are extremely primitive: they clear and burn the jungle and then sow sorghum, small millets and pulses in the ashes, partly by broadcasting and partly by dibbling with the help of a digging stick. No hoe is used: the Reddis' digging-stick cultivation is an agricultural technique very different from the hoe cultivation of other shifting cultivators. Neolithic man in possession of a polished celt may well have practised a similar form of agriculture.

Today the Reddis, like the Chenchus, use iron implements; yet their material outfit is fundamentally different. While the Chenchus manufacture hardly any article out of solid wood, the Reddis make large wooden drums, dug-out canoes, wooden pounding troughs and other articles which neolithic man could have produced. Moreover, they make much use of the sago-like pith of the *caryota urens* palm, which cannot be obtained without an effective axe. They fell the trees, split the trunk and extract the pith, which they then pound in wooden troughs.<sup>4</sup>

Reddi culture conforms in yet other respects to the neolithic pattern in tropical countries. They breed pigs and fowls; though in recent years some have acquired cattle, oxen and buffaloes, these certainly had no place in ancient

Reddi culture. The pig, on the other hand, is important as food and as the principal sacrificial animal at all rites connected with agriculture.

Until at least a few neolithic stations in the Deccan have been excavated, we shall have little concrete knowledge about the bearers of the polished-axe culture; but if any living culture can be associated with this proto-neolithic industry it is that of such primitive shifting cultivators as the Reddis.

#### *The Bondos and Gadabas*

In the Eastern Ghats, due north of the Reddi country, live tribes which belong to an entirely different sphere. Their culture too is obviously of great antiquity and stands out clearly from the Hindu civilization of the plains, but they are far more advanced than the Reddis. Both Bondos and Gadabas, the most prominent of these tribes, speak Munda languages.

The Bondos are fully fledged cultivators, and their country, with its terraced fields and denuded slopes, bears the marks of long-standing and intensive cultivation. They use a large iron hoe, with the broad-shouldered blade inserted into the shaft by means of a tang. Besides such dry crops as millet they grow rice on irrigated terraces, whose rich yield enables a comparatively large population to live in permanent settlements. This permanency finds expression in stone circles and platforms which are used as council places and ritual centres. They also breed cattle, using bulls, cows and buffaloes as sacrificial animals. They know how to weave and spin and have an elaborate social organization, with such institutions as youth dormitories,<sup>5</sup> and an extensive megalithic ritual.<sup>6</sup> The Gadabas, their immediate neighbours, grow rice on irrigated terraces almost to the exclusion of any other crops, weave artistically coloured cloth of shrub fibre and build great megalithic assembly places in the centre of their substantial villages.

Though today both Bondos and Gadabas use metal, their general culture is in many aspects comparable with late neolithic civilizations. Unfortunately our ignorance of Indian neolithic culture prevents us from identifying with certainty any late neolithic industry which can be traced as far as the Deccan; but I am inclined to link the advanced agricultural civilization of these two Munda-speaking tribes with the sporadic finds of highly polished neolithic celts of quadrangular section. Such celts, which closely resemble the Burmese and Indonesian type, are not uncommon in the Santal Parganas, and finds have been reported as far south as the Godavari. If this working hypothesis should prove valid—conclusive evidence can only be provided by extensive excavations—we would have to assume that a late neolithic civilization with eastern affinities and associated with Munda-speaking peoples exerted a considerable influence on the older populations of the Deccan.

#### *The Gondi-speaking Tribes*

Among the Gondi-speaking tribes of Bastar and Hyderabad such an influence is indeed noticeable. The institution of youth dormitories among the Muria Gonds, the

erection of menhirs as memorial stones by Marias and Koyas, the universal Gond custom of sacrificing cattle, and the role of forked posts at the funerary rites all link the Gonds with the Munda-speaking people, and even suggest affinities with the megalithic culture of the hill peoples on India's eastern border. But the assumption of a Munda influence on a primitive agricultural culture comparable perhaps to that of the Reddis cannot alone explain the diversity in Gond culture. The problem is far more complex. The Gondi-speaking peoples include such culturally diverse tribes as the Murias and Marias of Bastar, the Koyas of the riverain tract along the Godavari, and the Raj Gonds of northern Hyderabad and the Central Provinces. I consider it extremely unlikely that this large conglomeration of peoples, though at present they speak related dialects, was ever a compact and homogeneous group. It is far more probable that at the time of the spread of Dravidian languages and civilizations over large parts of Southern India the diverse jungle tribes of the Central Highlands adopted Dravidian languages, just as in historic times innumerable tribes have exchanged their tribal dialects for the Aryan languages of their more advanced neighbours. This Dravidianization may have coincided with the domination of certain tribal populations by groups of more advanced newcomers, giving birth to such institutions as the feudal system of the Raj Gonds of Hyderabad.

Raj Gond culture would thus seem to contain a substratum of a culture comparable perhaps to that of the Hill Marias of Bastar, hoe cultivators lacking plough or draught animals. In the myths of the Hyderabad Gonds the memory of such a time is still alive. But superimposed on this older stratum is a complex connected perhaps with the coming of the Dravidian languages. The great importance attached to certain iron objects may give us a clue to the chronological background of this culture. Every Gond clan worships an iron spear point as the symbol of their clan god. Gond mythology contains numerous stories of how these first sacred pieces of iron were acquired, and iron weapons and implements play altogether a very great role in Gond mythology and ritual. This emphasis on the virtue of iron would be explicable among a people associated with the introduction of iron to the primitive tribes that populated the Deccan in a pre-metal age. Today all Hyderabad tribes use iron, but only the Gonds and the Koyas ascribe to their iron objects any ritual importance or indeed speculate on the acquisition of iron by man.

We are here moving in the realm of hypothesis; but hypotheses have often stimulated research, and if pre-historic races can be associated with specific industries (e.g. the long-headed Illyrian-speaking people with the Hallstatt culture), may we not correlate the living remnants of archaic races with the prehistoric implements produced by their distant forbears? A word of caution is, however, necessary. Because some of the older populations have been saved from extinction or absorption by an environment which deflected the march of more dynamic newcomers, we should not assume that today we can find survivals of every people that contributed to the culture pattern of the

Deccan. We do not yet know, for instance, who were the builders of the many megalithic monuments that are scattered over large parts of the Deccan: there is no indication that this prehistoric megalithic civilization has any connection with the megalithic ritual still alive among such tribes as Koyas, Maria Gonds and Gadabas. But in a country like India with its highly developed historic civilizations the surprising fact is not that some of the older populations have disappeared from the scene, but that so many numerically insignificant tribes have survived and maintained their cultural identity.

## Notes

<sup>1</sup> H. de Terra and T. T. Paterson, *Studies on The Ice Age in India and Associated Human Cultures*, Carnegie Inst., Washington, 1939.

<sup>2</sup> H. D. Sankalia, *Investigations into the Prehistoric Archaeology of Gujerat*, Baroda, 1946.

<sup>3</sup> Cf. my *The Chenchus*, London, 1943.

<sup>4</sup> Cf. my *The Reddis of the Bison Hills*, London, 1945.

<sup>5</sup> Cf. my 'Avenues to Marriage among the Bondos of Orissa,' *Man in India*, Vol. XXIII, 1943, p. 172.

<sup>6</sup> Cf. my 'Megalithic Ritual among the Gadabas and Bondos of Orissa,' *Journal R. Asiatic Soc. Bengal*, Vol. IX, 1943, pp. 149-78.

## ROYAL ANTHROPOLOGICAL INSTITUTE PROCEEDINGS

**Communications and History.** By Dr. F. Hepner. *Summary of a communication to the Institute, 16 December, 1947*

**100** The lecturer directed attention to the fact that all the ancient civilizations in Egypt, Mesopotamia, India and China originated along large rivers. As the river not only made communications possible but supplied water for irrigation, there is always a hieratic basis (priests, writing, records, astronomy, calendar). In opposition to such systems originated individualism on the Greek islands, where the sea made men free, by making it easy to escape from one place to another. The trend of the Roman development appears already in the word '*pontifex*' ('bridge-builder'), but the Romans built up their empire more especially by communications on land. In consequence Antiquity never accepted the good sailing boat, used in the East and the North: the miracle of Vandals, Saracens and Norsemen is only understandable from their use of such a boat. The period of discoveries resulted from the improvement of nautical means, and Portuguese, Spaniards, Dutch and English became enterprising sailors. Thus the British Empire was built along the lines of world communications. We are living now in the new period of mechanical locomotion, but our ideas and institutions originated in the time of the horse and the sailing vessel. This conception of history might contribute to orientation in our period of turmoil.

**African Art and its Place in Art Tradition.** By Leon Underwood. *Summary of a communication to the Institute, 6 April, 1948*

**101** In this illustrated lecture, art was regarded as religious expression. That of prehistoric times was seen as the visual expression (*ipso facto*) of all human philosophy. In later primitive life, much in prehistoric philosophy became separated from belief and distinguished as specialized knowledge. This separation distinguished the unexplained part more clearly as belief, the subject matter to be expressed in art.

As inheritors of a classical tradition, we took many years in allowing the primitive element in visual art to compare with the rest. Not until the opening of the cave at Altamira in 1879 did we extend art tradition from the meagre six thousand years we had calculated, to approximately thirty thousand. Before this, Thomas Carlyle wrote in 1840 of Wotan as the first clearly discernible deity and sublime subject of primitive belief.

Since 1879 archaeologists have been arranging the prehistoric examples in a sequence by interpreting particular examples. To give these disconnected examples the unified significance of a living art, we must judge prehistoric art in the light of artistic

consciousness, as the art of Africa has at last been judged. Archaeologists indicate that the earliest prehistoric examples are in the round; the reliefs in the half-round come later, and last the painted images. The painted images have tone gradations emphasizing the natural prominences in the cave surface of rock, which were selected to represent prominences of the animal's body. These prominences therefore represent form, not shadow: the effect is of tactile, not of ocular realism. In this profound tactile realism many elements of modern visual technique were employed, *viz.* perspective, isometric projection, anatomy, animation and impressionism. In the transition of prehistoric technique from the earliest examples of human form in the round to the later wall paintings of animals on the flat, prehistoric art shifted its subject centre from the human to the animal. African art, though departing from the primitive realism of prehistory, still makes extensive use of the animal in its subject. The obese female is a favourite subject of the earliest prehistoric period, and later the animal in good shape for the butcher. Both ideals, the well-nourished mother and the fat beast, signify to a people without crops or cattle the concept of survival of the race in times of scarcity.

Attached to the Egypto-Greek culture we find the idea that realism in art is the product of refined intellect and scientific observation. But prehistoric art had produced a realism before ever the intellect specialized in scientific observation. Prehistoric art represents in a materialistic way the material subject of man's spiritual belief. It is the ideal materialism from which arose the spiritual idealism in African art. Spirits pervading the real world are in African art represented in an unearthly form of abstracted aspect.

Artists in the West today, without belief, interpret the art of the past without regard to its belief. And they have added their intellectual variations of its form, divorced from content (belief). The chain of events leading to this practice is somewhat as follows:

*Link one.* Belief through art imposed order on chaos: mystery.

*Link two.* This order remains as a fundamental visual quality of art: poise and balance, symmetry and asymmetry.

*Link three.* This fundamental quality was picked up by the intellectual Western artists.

*Link four.* Primitive technique became fashionable and then its full religious significance in African art was recognized by some artists.

*Link five* is still on the anvil. There is nothing to prevent specialization from going on and detaching the artist more from the priest; but only synthesis will produce new form.

Art tradition of the future will probably be more eclectic, tempering the intellectual with the primitive, for only thus may it be preserved from the decadence of classicism.

When man emerged from the prehistoric into the later primitive state, keeping his cattle and growing his crops, the food supply began to be looked to as the result rather of knowledge than of prayer. Still some uncontrollables, such as disease of cattle and blight of crops, affected the food supply. These afflictions were regarded as the work of spirits. In this we see human belief shifting from a material to a spiritual centre and mode of expression. So do we see the relation between prehistoric and African art.

The abstract character of African art and its associations in belief were discussed by the lecturer and illustrated with dancing masks from Jaman (northern Gold Coast) and Nigeria and ancestral figures from the Bakota and Fang tribes. Some examples were examined in detail, and an attempt made to illustrate how forms of converging significance were given a single abstract identity. African art combines the many features of a divinity, where classical art tends to separate them by splitting them off as numerous minor divinities.

The brain symbol in the enlarged forehead of the Fang ancestor figure was taken as a form most symbolic of African belief: the human organ of intelligence representing a supernatural will to which all African man's knowledge, skill, and labour are subordinate; on which his survival, through fruitful crops, ultimately depends.

It was shown that art expresses human belief in life's mystery in two alternating moods, the realistic and the formal: realistic prehistoric art, formal primitive art, realistic Greek art. This alternation of realism and formalism suggests an implacable cycle, or rather a spiral course on which human expression evolves, where realism and formalism are the two antipodes.

Art, which in the past expressed man's belief in ideal order, will not receive renewed vigour until belief is again fixed in the centre of a new economy. The present artistic frustration of Africa is a reflection on the West, for Africa now shares our doubt. The general use of African formalism by the artists of Europe is done largely as an act of iconoclasm, a debunking of outworn classical formulæ. It is out of phase with the belief of the past, and it does not yet grasp the need for a new economy established on belief. Therefore we have artists without subjects.

All discussion on art should be related to the art of the present, for it is a living thing. In so much of the past the living spirit of man may be studied only in his art.

Our first duty to our African brothers who come to England to study art is to hand them our intellectual appreciation of their own tradition. That is all we can do for them.

**The Zemi Nagas.** By Mrs. Ursula Betts, M.B.E. Summary of a communication to the Institute, illustrated with a colour film, 1 June, 1948

**IO2** The Zemi Nagas occupy an area covering parts of the southern Naga Hills, north-west Manipur and eastern North Cachar. The tribe apparently migrated to its present location from the neighbourhood of Mao and Kohima, by a route down the Barail Range, and reached North Cachar when the Kachari kingdom at Maibong was well established. There is a tradition that the Zemi immigrants intermarried with survivors of a jungle race exterminated by the Kacharis, and dark-skinned, frizzly-haired individuals are found among present-day Zemi.

Owing to the extreme steepness of their country and the lack of suitable land for cultivation, the Zemi seem to have adopted a system of cycle migration, although their villages remained permanent in form and, when temporarily abandoned in the course of the cycle, were carefully prepared for future reoccupa-

tion. Boundaries and monuments were marked or memorized, and the *hazoa* or jumping place, where major sacrifices were performed and where heads taken in war were buried, was marked by an upright monolith. The *kadepeo*, or original founder, was the leading man in each village community, and each *kadepeo*'s descendants succeeded to their ancestor's position, duties and rights on the reoccupation by the community of his particular site. The settlement in the area of Kuki tribes in the last century has virtually put an end to this cycle-migration system, and the Zemi country is now heavily over-populated and suffering acutely from deforestation and exhaustion of the soil.

*Mornings* (men's houses) are of great importance. The Zemi system is interesting in that each *morning* has members of all clans, and is not confined to one clan only. Children are claimed for a *morning*, in competition with other *mornings*, at birth, irrespective of clan; and brothers, or father and son, are often found in different and rival *mornings*.

The erection of stone monuments is practised. The stones are either dragged or carried, and monuments include large flat gravestones, circular stone platforms, and memorial stone rows. Dry stone walling is frequently used in village fortifications.

The major feasts are a series of four during and after harvest. These include sacrifices of dogs, pigs and mithan and ceremonial jumping and stone-putting by the young men. The final feast of *Hga-ngi* concludes the old year and opens the new; at it the ceremonies for those who died during the year are completed and their ghosts dismissed from the village. The village is next ritually cleansed of evil spirits, the omens for the new year are taken with split bamboos—an exact parallel with Kabui Naga custom—and great effigies of white wood, representing human beings, are set up at the village entrances and speared with darts by the men and boys.

Dancing is universal among unmarried girls and youths. Married men occasionally dance; married women never. Organized teams from *mornings* tour in the cold weather, performing at the houses of notables, and receiving payment on a recognized scale. Certain villages with exceptional skill (such as Magulong) have a quasi-professional status. Dances are of three kinds: (i) in formal figures, (ii) stylized and imitative, and (iii) dance games.

### Some Features of Social Structure among Sarawak Pagans.

By E. R. Leach, M.A., Ph.D. Summary of a communication to the Institute, 25 May, 1948

**IO3** The wide prevalence of social groupings defined in terms of a principle of unilateral descent has led to a neglect of other groupings of a segmentary order which are defined in other ways. Thus the structural segments which have been called 'clans' among the Maori, 'joint families' in Ontong Java and 'lineages' in Tonga are not unilateral descent groups of the type described as 'lineage' in recent Africanist literature, nor are they bilateral 'kindred' in the sense proposed by Rivers. Though the details of organization vary somewhat, it appears that this type of structural unit might be defined as 'a kindred restricted by the fact that all living members claim to be associated with a particular locality or with a particular local community.' It is suggested that this type of structural segment requires a specific label and the term 'ambilineage' is tentatively suggested.

The social structure of Iban (Sea Dayak) society in Sarawak is of this kind, each long-house community being an 'ambilineage' in the sense suggested. Long single-line genealogies fifteen to twenty generations in depth are associated with each house, and individual room-holders reckon descent by tracing affiliation to this axial line of the house. These axial lines are 'ambilateral' in the sense that they contain both males and females.



Rather more than half the lecture was concerned with an analysis of this Iban mode of reckoning descent, while the rest of the paper drew out the contrast between this Iban organization and that found among the Kenyah, Kayan and Kajang groups of the interior of Sarawak.

In the conventional ethnographic classification this population is listed under a large variety of tribal headings, in three main heads: Kenyah, Kayan, Klemantan. This classification, which is based on linguistic criteria, has only limited sociological significance. From the point of view of political structure these numerous small linguistic groups form a single complex. The subsections of this complex are primarily geographical (being defined by river systems) rather than cultural.

Certain features of the 'ambilineal' descent system noted already among the Iban are found also in the Kenyah-Kayan-Kajang area, but whereas class distinctions among the Iban are minimized, among the Kenyah group they are emphasized. The Iban as a whole show marked cultural homogeneity and neighbouring communities are linked together by innumerable ties of affinal kinship at all social levels. This homogeneity is associated with a relatively high local population density—about forty per square

mile. In the Kenyah-group area, on the other hand, communities are widely dispersed—a mean of two persons per square mile—and at commoner level the linguistically defined 'tribes' tend to endogamy. Political integration is achieved by the fact that the aristocratic upper class is tightly endogamous as a class, regardless of 'tribal' affiliation. Thus in any particular area all the tribes share a common aristocracy. This general thesis was exemplified by reference to several aristocratic genealogies from the Belonga and Baram-Tinjar areas; it was shown, for example, that while in 1940 the three leading chiefs in the Belaga area were respectively A, chief of the Sekapan tribe, B, chief of the Kajaman tribe, and C, chief of the Kayan Uma Juman tribe, A and B were in fact full brothers and C was their first cousin and also their brother-in-law.

The suggestion was put forward that while the significance of general principles of organization can only be discovered by the comparison of different societies, the utility of such comparison is greatly enhanced if the contrasted societies have a great deal in common. Thus, while specific points of Iban and Kenyah-group social structure were contrasted, the lecturer was at pains to emphasize the similarity of the general economic context in both cases.

## SHORTER NOTE

**Rediscovery of the George Grey Cave Paintings, North-West Australia.** *A note communicated by Professor A. P. Elkin, University of Sydney, N.S.W.*

**IO4** George Grey (*Journals of Two Expeditions of Discovery in North-West and Western Australia*, London, 1841) reported that one of the colours used in a set of cave paintings discovered by him on 26 March, 1838, in north-western Australia was a 'deep bright blue.' The use of this colour had not been reported since in this region in spite of the discovery of many galleries there during the past thirty years. Indeed, neither Grey's cave of 26 March nor the one discovered by him three days later had been seen since. The typical painting in all the galleries of the region is a head with the eyes and (usually) the nose but almost always lacking the mouth. There is also a horseshoe-shaped headdress (or band) from which lines (hair) protrude. The body may or may not be represented. The relationship of the galleries and paintings to the totemic and social organization, to the doctrine of pre-existence and the home of the spirit after death was ascertained in 1928 by myself (*Oceania*, Vol. I, No. 3, pp. 257-79; Vol. III, No. 4, pp. 452-64), and as regards mythology by Dr. Capell in 1938-1939 (*Oceania*, Vol. IX, No. 4, pp. 382-404). The Rev. J. R. B. Love also reported on some galleries in his Mission area (*J. Roy. Soc. South Australia*, No. XLI, pp. 35-38).

It was, however, still necessary to visit and photograph as many more of the galleries as could be located and above all to obtain in the native languages mythological texts connected with them. Fortunately, the Australian National Research Council was able to avail itself in 1946-1947 of the services of Mr. H. Coate, who had

spent ten years in the Northern Kimberley, a tropical region of precipitous ranges, fast-flowing rivers and very high tides. Being proficient in the local languages and on good terms with the natives, Mr. Coate has made a substantial contribution to our knowledge of the mythology of these paintings. In addition, he was asked to rediscover Grey's two caves. After several unsuccessful but physically exhausting attempts, and urged on by me through wireless telephone and air mails, he found them. A study of these two galleries, in the light of Mr. Coate's work and of previous fieldwork by Dr. Capell and myself, has been prepared. Two points will suffice here:

(1) Grey's descriptions were fairly accurate, though his free-hand drawings of the paintings were, as I had expected, much better than the originals. The colour blue was correct, though not a 'deep bright blue'; it approaches a green. Fortunately, Mr. Coate found the substance which was used. Analysis shows it to be glauconite— $K(Mg Fe)_3 Al Si_3 O_{10}(OH)_2$ . Powdered and mixed with water and applied to a stone surface, it dries a bluish-green with specks of deeper blue.

(2) The 'robed' figure of Grey's cave of 29 March, with delicately formed hands (*Journals*, Vol. I, p. 214, plate) has turned out to be rather crudely done (as in the case of the large figures in other galleries) and not to be robed. Markings on the head-band, interpreted as an oriental script by some writers, symbolize lightning, and the three lines of rings on one side of the figure represent yam seed; they do not indicate, as has been suggested, the number of sailors who, being shipwrecked, pointlessly found their way in rough country to the headwaters of the Glenelg. Both this cave and Grey's of 26 March, belong to the mythological complex of the region.

## REVIEWS

### GENERAL

**Societal Evolution: A Study of the Evolutionary Basis of the Science of Society.** By A. G. Keller. Yale Univ. Press, New Haven; Geoffrey Cumberlege, London, 1948. Pp. x, 420. Price 21s.

This is a revised edition of the textbook of the Yale School of Social Science, published in 1915 and considerably amended in 1931.

The present revision is less drastic; one misses the sidelights on the Roosevelt period which might be the counterpart of the Wilsonian interpolations. Essentially this is a handbook for students following the Yale course, established by the late W. G. Sumner and maintained by his collaborator and successor Dr. A. G. Keller. Doubtless the necessary illustrations of the argument would be supplied orally



or by prescribed reading, on the American plan. The principal source book is of course the Sumner-Keller *Science of Society*, but there is much use of Sumner's *Folkways* and other writings, including some posthumous essays.

The title needs a word of comment, because Dr. Keller gives it some importance. The word 'societal' stands to 'society' as 'social' stands to the *socii* who compose it. Granted; but surely the subject of study is, in Yale terminology, the 'mores' and 'folkways' of the individual *socii*, not of any abstract and idealized *societas*. Few, if any, passages in the book would have their meaning changed for the ordinary reader, by substituting 'social' for 'societal'; and Dr. Keller is the last person to insist on the conventional abstractions that do so much harm when they run amok.

In the effort to be clear and fundamental, the book becomes long-winded and platitudinous, but perhaps this is unavoidable. The 'human type of evolution' has to be compared with the non-human; 'variation' and 'selection' have to be defined and distinguished; and the 'element of rationality' has to be sought and its limitations explained. 'Counter-selection,' a principal achievement of rationality, receives detailed discussion, and a variety of illustrations; and 'transmission' includes tradition, education, and 'inter-class' and 'inter-society' diffusion. 'Adaptation' reviews the whole problem from the point of view of the environment and its 'controls,' with the Eskimo as a type specimen. Finally, the progressive effects of adaptation are illustrated by the experiences of 'frontier society,' in temperate and in tropical climates; a topic to which recent American sociology—or should one say 'societology'?—

has naturally devoted exceptional attention. The special case of mining-camp life seems to be treated as an afterthought: it is either a variety of 'frontier' facing the dead-end of an exhausted lode, under physical conditions exceptionally austere; or it is a distinct 'societal' form, in which 'the job' is the 'end' to which the miner's 'mores' contribute. If the latter, it should be compared with the 'city,' with its artificialized environment, which is the subject of the final chapter. For in the city, too, the 'end of life' is highly specialized, though so many different careers and efforts contribute to it. As the 'end' of the mining camp is conditioned by the geographical distribution of the ore; that of the navy camps by the alignment of the railway, canal, or pipe-line; and that of the military camp by the strategical situation—another highly special kind of 'frontier' not envisaged in this book at all—so the city is the result of adaptation to another geographical factor, the need to be *here* at all: at Venice in a lagoon, in London or Oxford at a river crossing, at Rotterdam or Marseilles at a landing place, at Paris or Vienna at a 'hof-burg'; at Rome, or Jerusalem, or Kairouan at a holy place. A simple illustration of this need is the extension of the human 'habitat' into a third dimension; Babylon had its 'hanging gardens' as New York has its 'garden' in Madison Square, and its 'sky-scrappers' like a *pueblo* or Lhasa. Dr. Keller rightly stresses the imperfection of the human response, especially on the largest scale, to these problems; and what seems to be a counsel of despair, the relegation of administrative control to a smaller and smaller number of (let us hope) exceptionally gifted persons—mayors, railroad presidents, copper and labour 'kings.'

JOHN L. MYRES

## ASIA

**Birth and Childhood among the Arabs.** By Hilma Grandqvist. Helsingfors, 1947. Pp. 289

**106** Dr. Grandqvist has already published *Marriage Conditions in a Palestinian Village* and *Family Life Among the Arabs*, and this is the third report of her researches in the South Palestinian village of Artas. She gives the results of her researches in great detail, usually in the actual (translated) words of her female informants. The first four chapters describe all that is done by the mother, her family and the neighbours at all stages of pregnancy, childbirth and lactation, and the superstitions connected therewith: of these the most important is the belief in the necessity of keeping the mother or prospective mother apart from persons who are ritually impure. Among other beliefs are that when a woman conceives an angel inserts a lump of kneaded dust into her womb, and that the placenta is the sister of the babe. The next two chapters deal in a more general way with play and education, or the lack of it, and in the last there is a detailed description of circumcision customs and ceremonies, which seem not to differ from those in other parts of the Muslim world. In the notes the customs of Artas are compared with those of the Biblical Jews, of modern Jews and of other Arab communities. The book is unbound, but the paper and printing are such as we in this country have not seen for many years, and the English is faultless.

RAGLAN

**The Vedantic Buddhism of the Buddha: A Collection of Historical Texts.** Translated from the original Pali and edited by J. G. Jennings. Geoffrey Cumberlege (O.U.P.), 1947. Pp. cxvii, 679. Price £2 2s.

**107** The gap of nearly five hundred years between the age of Siddhattha Gotama and that in which the Pali Scriptures were compiled makes it exceedingly difficult to arrive at an accurate estimate of the life and teaching of the Founder of Buddhism. The *Tripitaka*, or 'three baskets' of the Pali Canon, preserved in Ceylon, claim to give an authentic record of his message in all its purity, but as they were not reduced to writing before 80 B.C., there was ample time for interpolation of folk material and the re-interpretation of the tradition by monastic and scholastic systematizers. Thus the *Vinaya Pitaka*, the first of the three subdivisions, consists of rules of the Monastic Order, and the third, or *Abhidhamma Pitaka*, contains the later metaphysical and psychological refinements. It is in the *Sutta Pitaka*, belonging to the middle period, that the less systematized discourses of the Buddha occur, notably in the five *Nikaya*, or

main divisions of the second basket. These contain a great deal of identical material, but the fifth, or *Khuddaka-Nikaya*, has almost certainly been added in comparatively recent times.

In the volume before us Mr. Jennings, who lived and worked for nearly thirty years in the provinces of Bihar and Orissa (the scene of the Buddha's activities), has endeavoured to discover the actual words of Gotama from this heterogeneous collection of Pali writings. To this end he has arranged the text in chronological order from the mainly canonical narrative introduction to the systematically arranged account given in the *Maha-vagga* and *Culla-vagga* of the *Vinaya Pitaka*, in which the monastic disciplinary regulations are set forth in a classified form, together with the post-canonical introduction (*Nikaya-Katha*) to the Commentary of the *Jataka* (or Book of Stories of the previous births of Gotama) of the fifth century A.D. This gigantic task, which has occupied the author during the twenty years of his retirement, has resulted in the production of what is virtually a biography of the Buddha and an original account of his distinctive teaching, as well as a lucid translation of the texts arranged in their historical sequence.

The core of the message, he contends, is to be found in the *Dhammacakkappavattana-Sutta* (the first discourse of Gotama) in which the Four Noble Truths and the Eightfold Path are enunciated. Accepting the established doctrine of transmigration as a general principle, the Buddha adapted it to his theory of non-egoism (*anatta*), and the attainment of the passionless peace of *Nibbana*, or freedom from the misery of existence, through the eradication of selfish desire by following the Eightfold Path. Discarding the doctrine of personal *Karma*, he returned to the fundamental belief in selfless well-doing without reference to rewards or punishments, or to the metaphysical speculations of mystical Hinduism. Whatever is inconsistent with this simple and concise statement of the original *Dhamma* (law), be it in the Canon, the Commentaries or the Edict of the Emperor Asoka, is a later accretion, added after the middle of the third century B.C.

In Part I of the volume is given a literal translation from the Pali of the principal passages of the *Nikaya-Katha*, or biographical introduction to the Commentary on the *Jataka*, and the corresponding chapters of the *Pitakas*. This includes the Renunciation, the Enlightenment, the First Converts and the Foundation of the Community. Part II comprises the subsequent period, covering the sojourn of the Buddha at Rajagatha during the rainy season, when the organization of the Society was developed. Part III is devoted to

those portions of the Canon which narrate events after he had established his headquarters at Savatthi, together with those connected with the last journey and the final scenes of his remarkable life.

As a translation of the historical texts of Vedantic Buddhism this volume will be of considerable value to students of the Hinayana Pali literature. Over and above this, the arrangement of the text in what is claimed to be historical sequence, and the addition of exhaustive footnotes and cross-references, provide virtually a life of the Buddha and an illuminating account of his original teaching. This enables the anthropologist to see which parts of the tradition have, on literary grounds, the best claim to authenticity, and so to place the folk material in its proper setting. E. O. JAMES

**Hindu Kinship.** By K. M. Kapadia. Bombay (Popular Book Depot), 1947. Pp. xvi, 320, xl. Price Rs. 15

**108** In this scholarly work the author discusses what is said in the Hindu scriptures on such subjects as the cult of ancestors, inheritance and adoption, marriage and the position of women, and the organization of the household and the kin group, together with the interpretations placed upon these sayings by commentators ancient and modern. In general they leave room for considerable variety of interpretation, and the author shows that theory and practice have varied considerably at different times and in different parts of India. He inclines to the view that some modern Hindu customs, especially some of those connected with marriage, are not in accordance with the best authorities, but his object is, or at least seems to be, to show that Hinduism is not rooted in ancient dogma, but is capable of moving with the most enlightened ideas of the time. His statement (App., p. xii) that 'caste in any form is an unadulterated evil' may surprise Professor Hutton. RAGLAN

**Geheimnisse des Dschungels: Eine Forschungsreise zu den Primitivstämmen Zentral-Indiens 1938-39.** By Wilhelm Koppers. Luzern (Stocker), 1947. Pp. 256. Illustrated

**109** This book is a popular account of the author's experiences during some twelve months of fieldwork among several aboriginal tribes of Central India. It is written for the layman and in particular for the layman interested in the activities and problems of Roman Catholic missions in India. Throughout his stay in India Professor Koppers worked in close co-operation with missionaries familiar with local languages and customs, and this enabled him to collect in a comparatively short time extensive material from a number of different tribes. There are interesting references to Korkus and Nahals, but the main subject of the author's investigations was the complex and in many respects controversial problem of the Bhil people.

In India the practice of referring to large and often heterogeneous groups of tribes under one name has led to a confusion of ideas

which has vitiated many earlier ethnographic accounts and has even obscured the judgment of some contemporary writers on anthropological subjects. In a recent study on Gond economics, for instance, the many diverse populations known to their neighbours as 'Gond' have been treated as one cultural and ethnic unit; elements characteristic of any one branch of this hypothetical unit are attributed to the entire tribal group and this artificial over-simplification veils the cultural identity of the individual 'Gond' tribes. In other words, the questionable use of the word 'Dravidian' as an ethnic term is now being repeated on a smaller scale, the present linguistic unity being mistaken for cultural and racial homogeneity. The various tribes now speaking 'Gondi' languages do not necessarily share a common heritage, and even a common cultural veneer should not lead us to assume a basic uniformity. The position of the Bhils is in many ways similar to that of the 'Gond' tribes. With a numerical strength of over two millions they represent the second largest tribal group in Central India. The cultural differences of the various Bhili-speaking tribes are very considerable and the present linguistic unity is small proof of ethnic homogeneity: Bhili is an Indo-Aryan dialect and thus necessarily of comparatively recent adoption among ancient populations.

Professor Koppers has undertaken an extensive study of the Bhil tribes and he has earned the gratitude of anthropologists for tackling one of the most difficult problems of Indian ethnology with the full equipment of his comprehensive historico-ethnological experience. He is no doubt right in assuming in the Bhil population of today a substratum older than the bearers of either Dravidian or Munda languages. But are the cultural divergences of the various groups the result of the uneven impact of successive waves of more advanced populations, or do they represent the original differences of separate tribes only later unified by the political domination of an Aryan-speaking people? One of the difficulties of diagnosis is the modification, in historical times, of the economic life of practically all Bhili-speaking tribes. It appears that some Bhil groups were once mainly hunters and food-gatherers like the Chenchus, while others practised a primitive type of shifting cultivation like that of the Kolams and Hill Reddis. In a recent essay (*Census of India, 1941*, Vol. XXI, Hyderabad, p. 43) I have quoted evidence from unpublished sources for the persistence of such cultivation among the Bhils of Khandesh as late as the nineteenth century, but it seems today all Bhils are familiar with plough cultivation either as labourers or independent farmers.

It is to be hoped that Professor Koppers' forthcoming work *Die Bhil in Zentralindien* (Vol. VII of *Wiener Beiträge zur Kulturgeschichte und Linguistik*) will bring us a good deal nearer the solution of the Bhil problem. The present travel book, with its well-informed discussions of religious and social matters and its many interesting illustrations, gives us only a foretaste of the more solid fare to be expected in the author's monographic study of the Bhils of Central India.

C. VON FÜRER-HAEMENDORF

## AFRICA

**La Géomancie à l'ancienne Côte des Esclaves.** By Bernard Maupoil. *Trav. et Mém. de l'Inst. d'Ethnologie*, Vol. XLII, Paris, 1943. Pp. xv, 690, with 8 plates

**110** Geomancy, Greek and Persian in origin, is a method of divination which interprets the significance of points set down at random, then connected and cancelled to give a figure or number which is referred to a key for an answer. In the Middle Ages Christian theologians were interested in the subject, and learned manuscripts about it were written even as late as the eighteenth century. Etymologically, geomancy means divination by means of the element earth, perhaps because at first the marks were made and figures drawn in the sand or dust; but by the Middle Ages writing had replaced markings in the dust.

M. Maupoil draws our attention to a geomantic cult still actively practised in French Dahomey, especially at Abomey and Porto Novo. His information was collected during an administrative tour from January, 1934 to January, 1936. In the old Slave Coast divination takes for its signs palm nuts with special markings, together with a host of ritual objects and a herbal potion. Geomancy was

introduced into Dahomey during the reign of Agaja, in the early eighteenth century, by a caravan of Negro traders from Ife in Yoruba country. The traditional explanation of its origin adds that the cult was falling into disuse in Yorubaland itself. There is almost no information to show how it reached the Yoruba from its ancient Greek or Persian home. The actual seat of origin is also controversial, but we are at least certain that it pertains to a foreign culture. Although the absence of astrological preoccupation in Dahomey weakens the idea of affinity with Greek geomancy, it is easy to understand how this branch of the cult would be the first to be discarded by an illiterate people.

Geomancy in Dahomey is built up round a belief in Fa—essentially a benevolent, impartial force, unconcerned with influencing the fate of man for good or evil, but kindly, in that by foretelling the future, be it good or evil, it helps man to take precautions to avoid excessive harm.

The book is divided into two parts, of which the first describes the nature of Fa, the mechanisms by which it operates, the agents, private and public, of the cult and the divination and ritual associated

with it. The chief exponents and interpreters of Fa are the *bokono*, the high priests and diviners of Fa. The *bokono* are members of a hierarchy carefully trained and initiated gradually into the mysteries of Fa. The *babalawo* hold the highest rank in the hierarchy and have the power of healing. The calendar was formerly the exclusive possession of the *bokono*. They are sometimes accused of having recourse to black magic, but morally the priests of Fa, though cognizant of the functioning of the evil art, should not use it. The diviners who use black magic constitute a separate class, the *vodumo*. The author carefully describes the training and initiation of a diviner and the steps whereby he transmits the replies of the oracle to his client. The client may be admitted into the secrets of the cult by being ordained a *favi* or lay brother, to whom the mysteries and signs of Fa are revealed in the sacred wood.

Beginning from an esotericism borrowed from the four elements, the four cardinal points and the twelve signs of the Zodiac, Fa slowly turned into a cult of magic and charms. Two hundred and fifty-six gods were appointed, and tokens of belief and stories were built round them. Part II of the book is devoted to these signs, of which the sixteen primary ones are fully described and the 240 secondary ones described in their characteristic groups. The characters, emblems, legends, songs, prayers and prohibitions of the individual signs are carefully noted.

In the days before the European conquest Fa played a part in the religious, social and political life of the kingdom, the mode of divination and the social and religious relations between the *bokono* and the people being secondary in importance to the esotericism of Fa. The political power of the king's diviners in the monarchies of Allada, Abomey and Porto Novo, though great, involved a role fraught with mystery and intrigue, for the diviner often subordinated his religious powers to the temporal interests of the monarchy. The influence of European values and the overthrow of the monarchies has undermined the power of the *bokono* and the cult is now decadent. The removal of the strict control of the king over the cult has encouraged charlatanism and M. Maupoil foretells even more drastic changes when the older *bokono* die. Although Fa is no longer loved and venerated as before, the belief has so tenacious a hold over the people that Fa is still consulted by some of those converted to Christianity and Islam.

M. Maupoil has to be congratulated on a work so painstakingly and carefully undertaken, in a style throughout clear and convincing. Although apology is made in the introduction for the inadequacy of the work, the 680 pages of detailed information, the clearly drawn diagrams and the excellent photographs will provide future research workers with ideal documentation on a subject hitherto little investigated and with exhaustive references to sources of information both confirmatory and contradictory. **SONYA GREGORY**

**Völkerkunde von Afrika.** By Hermann Baumann, Richard Thurnwald and Dietrich Westermann. Essen (Essener Verlagsanstalt), 1940. Pp. 665, 461 plates and illustrations, 23 maps. *Völkerkunde von Afrika* surveys, in three sections, the ethnology, language and colonial history of Africa.

The first section, 'Völker und Kulturen Afrikas,' by Dr. Baumann, is mainly concerned, first, with the establishment of nine basic African culture complexes—the Pygmoid, the Eurafian Steppes-hunter, the Cattle-tending Hamitic, the Negro (including the matrilineal Bantu and the patrilineal *Urwald*), the Old Negritic, the New Sudanic, the Rhodesian, the Old Mediterranean and the Recent—and, secondly, with a description of the twenty-three culture areas of Africa by means of an historical analysis of their characteristic combination of any of these nine basic culture complexes. The necessity of combining an analysis of culture traits with extreme brevity has produced a description by catch-words; the resulting style can be best illustrated by a brief quotation:

Die Lamba sind ein friedliches, mütterrechtliches Volk, in exogame Clans mit einem nur formalen Totemismus eingeteilt. Unter der intensiven Pflanzerschicht lebt noch hartnäckig ein Jägertum weiter. In Religion und Mythos erinnert vieles an die benachbarten Ila . . . (p. 130).

The second section, 'Sprache und Erziehung,' by Dr. Westermann, is succinctly presented in outline. The African languages are divided into three main families: the Khoisan, the Negro (including the Sudanic, Bantu and Nilotic languages), and the Hamito-Semitic (including the Hamitic, Semitic, Semi-Bantu and Inner-Sudanic languages). A brief indication of the main phonetic and syntactic characteristics of each main sub-division is in each case followed by a list of the tribes speaking related dialects. A short discussion comments upon the need for gathering native texts, the spread of some of the African languages such as Swahili, and recent native literature. A twenty-page chapter contrasts the old and the new education. Dr. Westermann also is greatly handicapped by lack of space, as the very nature of the material precludes the desirability of the thumbnail sketch.

The third section, by Dr. Thurnwald, 'Die fremden Eingriffe in das Leben der Afrikaner und ihre Folgen,' is not a study of culture contact in Africa, as the title might imply, but almost entirely a series of brief historical essays on the exploratory, missionary, economic and political activities of all the European nations which are or have been concerned with Africa. The generally high level of interest and conciseness of presentation make it all the more regrettable that Dr. Thurnwald has seen fit to devote his section on the former German colonies to a vehement protest against their removal from German control and an aggressive vindication of German policy while in possession of them. Whatever the facts of the case, the introduction of nationalistic invective into an otherwise scholarly work is to be censured. It is a possible explanation, though no excuse, that this book was written and published under the Nazi regime.

It is difficult to assess the value of this book as a whole. The entire volume of over six hundred pages, with all its interesting photographs, sketch maps, and proliferation of miscellaneous detail, contains little that the Africanist would not know. It assumes a degree of acquaintance with the field of African ethnology which makes it unsuitable for the beginner. The total impression is that too little has been said about too much. **L. BOHANNAN**

## CORRESPONDENCE

**A Culture Card Index.** Cf. MAN, 1948, 40

**II2** **SR,**—While I welcome the idea of a Culture Card Index put forward by Mr. O. H. Myers, I should like to criticize some headings.

(i) 'Religious Stage.' As in living cultures various types of ritual and belief are found extant at one and the same time, some of which would previously have been labelled animatism, animism, totemism, ancestor-worship, theism, etc., the idea of 'stages' has now been discarded. Even such labels can only be used with caution, after the examination of ritual practices and accepted beliefs, as well as the behaviour in accordance and at variance with such beliefs. As this is the case for extant cultures, it is obvious that for extinct cultures types of religion are still more difficult to identify. However, much may be inferred from the examination of disposal of the dead, the existence of monuments, pictorial remains, etc. I would there-

fore suggest as a heading, in place of 'Religious Stage,' 'Evidence for Ritualistic Practice and Beliefs.' For example, there may be evidence in burial customs for a belief in a life after death, masked dances in pictorial presentations, or organized worship and sacrifice in altars and temples.

(ii) I would suggest that the heading 'Physical Racial Features' be altered to 'Skeletal Characteristics.'

(iii) The heading 'Language' might be replaced by 'Evidence for script, pictorial or alphabetic.' The index would be largely used for cultures in which no evidence for either language or script could be found. But even in such well-investigated cultures as those of Crete and Easter Island, whose scripts are well preserved, the languages they represent remain problematic.

With such alterations the index might be very valuable.

**BRENDA Z. SELIGMAN**

**The Bolas and its Distribution.** Cf. MAN, 1947, 169; 1948, 53. SIR,—If Dr. Harrison will refer to Wilkinson's *Manners and Customs of the Ancient Egyptians*, 1837, Vol. III, p. 15 (or 1878, Vol. II, p. 87), he will see a reproduction of a Beni Hasan tomb drawing showing wild cattle being taken with a bola. I use the singular as there is only one ball, but it is quite clear what it is. It has curled round the animal's horn and then its muzzle. If he will refer also to the *Archæological Survey of Egypt*, edited by F. L. Griffith, Beni Hasan volume, Part II, Plate XXIX, he will find another representation of the same subject illustrated with the bola in a similar position as regards the horn, but appearing from behind the animal's neck instead of in front of its muzzle. I have certainly seen a third illustration with yet a different position of the bola but have not yet succeeded in tracking it down to print. I am also acquainted with the report of the bolas in West Africa and have been mentioning its occurrence there when lecturing, for some years past, but thought it was well known to anthropologists, and I have no note that I can yet find as to the source of my information. Dr. Leakey does not mention the New Guinea form which is a toy consisting of about nine inches of horsehair with a coix seed at each end which is called *siriko* and used in New Guinea (Fly River?) for taking dragonflies, which are no doubt eaten as in Assam; this miniature form can be seen as an exhibit in the Pitt Rivers Museum in Oxford. I have also seen an illustration of a weapon of bolas form from Malaya consisting of brass balls connected by cords or chains. Possibly it is used, like the Japanese weapon of which Dr. Harrison tells me, to entangle an enemy's sword, but it appears to be identical in principle with the hunting bolas. This Malayan form (*batu rajut*) is to be found illustrated in Gardner's *Keris and Other Malay Weapons* (Singapore, 1936), Plate 81, and described on p. 107, though its use is obviously misunderstood. J. H. HUTTON  
*University Museum of Archaeology and Ethnology, Cambridge*

Dr. Harrison adds the following notes.—ED.

Professor Hutton's letter, of which he was kind enough to send me a copy before it went to press, raises a question of some terminological importance; namely, what is a bolas? Priority in the name must of course be given to the South American Indian form with either two or three balls, the name being later extended to the small Eskimo type, with a number of weights. Recently added is the East African games bolas, whilst the delightful New Guinea 'weapon' is at present only a promising candidate (see below).

The morphological and functional features common to the recognized forms are well known, and the bolas may be defined as follows:

- (i) A cord, or two or more connected cords, to the free ends of which, or of each of which, is attached a ball or other weight, to a total of two or more.
- (ii) In use the bolas is thrown free of the hand so as to revolve in the air as a whole.
- (iii) The function is not to strike the animal (or its substitute) with the weights, but to entangle and incapacitate it.

I have consulted Dr. Hutton's authorities, and if the above definition is accepted as providing fixed qualifications or criteria, the following conclusions will emerge: the Ancient Egyptian single-ball cord is not a bolas, since it has the third qualification only. Some Egyptologists have called it a lasso, but that also is a misnomer, though a not unnatural one, since functionally it appears to have been a lasso with a weight in place of the usual noose. It may be due to artistic licence that two of the Beni Hasan representations show the cord in a relation to the animal such as could scarcely have resulted from a throw; it looks indeed more like a hobble, though the position of the weight does not support this interpretation.

The Malayan specimen is so badly figured by Gardner that the issue is confused. The figure dimly suggests the presence of two weights, whilst the text refers to one only, and describes the weapon as being thrown to strike. At best, therefore, the *batu rajut* must be placed to a suspense account.

The miniature *siriko* from New Guinea must also go to the same account, pending information as to whether it is thrown

at the dragonflies, in which case it is a true bolas, or is held in the hand.

The South American Indian *bola perdida* possesses only one of the characters of the typical bolas—that of being (sometimes) thrown freely at the objective, but to strike a blow and not to entangle.

If an inclusive term is desired for all the types mentioned here, they might be called 'weighted cords,' the bolas being distinguished also by their proper name. No implication of a common origin for all the members of the group would arise from the collective term, and we cannot dismiss the idea of the independent origin, in more than one part of the world, of the bolas itself. In any case, to apply the preoccupied term to all types of weighted cords would be to cast a shadow on a time-honoured name.

Miss B. M. Blackwood has been good enough to send me details—too full to include in a belated postscript—of a small bird bolas from the Ellice Islands, now in the Pitt Rivers Museum at Oxford. It has a total length of 102 centimetres, the plaited cord having at one end a piriform weight of shell and at the other end a smaller weight, or 'toggle.' Its use is to capture a frigate bird by entanglement, and it is a true bolas. Mr. H. J. Braunholtz, also, has kindly given me details of a comparable missile (but with only one shell weight remaining on the broken cord) in the British Museum and coming from the Gilbert Islands, where it also is thrown to entangle the frigate bird. He has pointed out to me a detailed description (in A. Krämer: *Hawaii, Ostmikronesien und Samoa*, pp. 360f.) of the manner of use of such missiles, which presents some very interesting features.

Both the above contributions have been shown to Mr. H. J. Braunholtz, Keeper, Department of Ethnography, British Museum, who makes the following comments.—ED.

The specimen from the Gilbert Islands in the British Museum, mentioned by Dr. Harrison, retains only a short fragment of its original cord; so one cannot be certain whether a second ball or toggle was originally attached to the other end. Similar specimens from the Gilbert Islands and Nauru are (or were) in the Natural History Museum, Vienna, and the Giglioli Collection, Florence. The former is called by O. Finsch a 'bola' (*Ethnologische Erfahrungen und Belegstücke aus der Sudsee*, 1893, Part 3, pp. 34ff., and fig. 1) and described as having a finely twined coconut-fibre cord seventy to eighty feet long, which terminates in a ring for the thumb or little finger. Morphologically it was therefore not a true bolas, although its function was similar, since, when thrown, the ball (made of tridacna shell, limestone or iron) 'wound itself round the bird and brought it unhurt to the ground.'

The specimen (No. 1236) described by E. H. Gigholi in his catalogue *La Collezione Etnografica* (1911, Part 1, p. 124) is also called by him a 'bola' and has 'una lunghissima corda di capelli umani.' This appears to be the same piece as is figured by Edge-Partington, *Album of the Pacific*, Part 3, p. 51, No. 6, and called by him also a bola.

A further variety from the Gilbert Islands, called by Finsch a slingstone (*op. cit.*, p. 119, No. 1206) and said to be used in fighting at close quarters, has a larger weight, and a cord only eighteen centimetres long, ending in 'a loop large enough to insert the hand.' Even if this were thrown, as Finsch suggests it may sometimes have been, its function must have been percussion rather than entanglement, and it has no claim to be called a bolas. But in spite of their differences of function, the fact that these somewhat similar missiles both occur in the same area is suggestive of a generic relationship and a possible line of evolution for the true bolas.

The question of nomenclature remains, viz. should the term 'bola' as distinct from bolas be retained for the single-ball missile used for entanglement, even if one end of the cord is retained in the hand when the ball is thrown? And how are we to distinguish between the bola and bolas when used in the plural?





*a*

*b*



*c*

# A NORTHERN LAPP HERD OF REINDEER REACHES THE SUMMER PASTURELAND

(*a*) ONE HERDER LEADS WHILE TWO DRIVE    (*b*) DRAUGHT REINDEER FOLLOW WITH LOADED SLEDS    (*c*) THE HERD DISPERSES TO SEARCH FOR LICHENS IN THE MOUNTAINOUS HINTERLAND

*Vassaluokta, late April, 1945: photographs by Mikel Utsi*

# THE REINDEER-BREEDING METHODS OF THE NORTHERN LAPPS\*

by

MIKEL UTSI

**II4** Reindeer-breeding is still the centre of the Northern Lapp mode of life. Evolved in a homeland of interlocking frontiers (see fig. 1), the Northern Lapp methods of herding reindeer and living by their produce have spread far afield, southwards within Sweden, and across the Atlantic to the New World.

Reindeer nomadism has usually been described 'from outside,' by travellers, officials and scientists. It may therefore be helpful if I give a brief description of Northern Lapp methods 'from inside,' from the modern reindeer-owner's and herder's point of view.<sup>1</sup>

Until I was fifteen my family lived in Karesuando, the northernmost parish of Sweden. A considerable part of the sparse population consisted of reindeer-owning Lapps,<sup>2</sup> who migrated with their herds over the watershed to the Norwegian coast in the summer, and back again and down into the forests in the winter. Some of these Lapps had come to Sweden, like my father, from Kautokeino parish, some from another Norwegian parish, Karasjok, or from northern Finland, where, for instance, the Utsjoki region was probably linked with the history of our paternal ancestors. According to our traditions, reindeer-breeding has always been the family's principal concern, but whenever suitable it has been supplemented by hunting, trapping, fishing and handicrafts. For methods of herding reindeer and the income derived therefrom vary greatly.

The chief factors are the type of area, particularly as to the pasture it offers, and the weather, particularly in its effect on snow. An extreme example is described by the Swedish term *flen*: if a late autumn thaw freezes into a coat of ice close to the ground, the reindeer pawing through the snow above cannot reach the lichens on which they depend in winter for food<sup>3</sup> until the spring thaw, and many may starve.<sup>4</sup> A third factor is the prevailing price for meat and hides, which has often fluctuated sharply.

Lapps are in any case dependent on waters rich in fish. Fish, fresh or salted, relieves the monotony of the household menu, but above all it offers some security against a set-back in reindeer-breeding, and an occasional total loss.<sup>5</sup> Hunting and trapping are engaged in especially by Northern Lapp families which either have few reindeer to herd or a sufficient number of members in the household to carry on more than one occupation successfully. As for handicrafts, it is vital to be able to make one's own equipment to a large extent; but the same crafts are practised in order to add to the cash income. There is a great demand by 'tourists' and also by the permanent Swedish population

for knives and other objects decorated with or made of reindeer antler by Lapp men, and for the reindeer-skin shoes and bags and the hand-woven bands made by the women.

I shall begin my summary of the Northern Lapp reindeer-herder's year with the calving and the spring trek to the Arctic Ocean. Although I am describing our life in Karesuando twenty-five years ago, friends and relatives

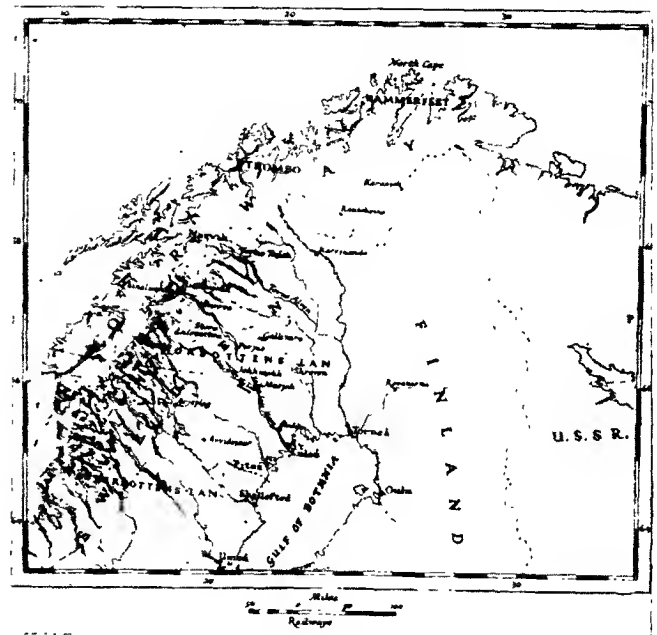


FIG. 1. THE HOMELAND OF NORTHERN LAPP REINDEER-BREEDING METHODS

*Drawn in 1938 (Finnish frontier as in 1920-1940): by courtesy of the Royal Geographical Society*

continue on the same lines in that region today, while we have brought similar methods to more southerly pastures (see fig. 2).

Calving takes place during May, and most Karesuando Lapps remained in the Swedish mountains for this period. The reindeer were separated into two herds, the females about to calve being carefully guarded in one, the rest in another. When the youngest calves were some fourteen days old the two herds could again be combined and the spring migration to Norway could proceed, about 15 June. Before the deer were turned loose on their summer pastureland a fortnight later, however, nearly all the calves had been given their owner's mark. This consists in a pattern formed by the outline of the two ears considered

\* With Plate I and three text figures. The substance of a lecture delivered to the Royal Anthropological Institute, 13 May, 1947. Translated by Dr. Ethel John Lindgren.



together, made by cutting bits out of the sides. The operation seems to cause the animals little, if any, pain, especially if it occurs when they are small.

The Norwegian authorities allowed my father, probably because of his Kautokeino origin, to move into our summer pastures on the beautiful, narrow-necked peninsula between the Kjosen and Lyngen fiords on 1 May. We were therefore not obliged to guard our deer day and night during the calving, and could begin, two months earlier than the others, the so-called 'extensive' summer herding which is distinctive of our methods, in contrast to the 'intensive' or close herding traditionally maintained, in summer as in winter, by the southern and Forest Lapps.



FIG. 2. A WINTER ROUND-UP

*Murjekshyn, Jokkmokk Parish, 1943: photograph by Mikel Utsi*

It is a striking testimony to the effect of favourable conditions and surroundings that my elder brother and I, at the ages of nine and seven respectively, were left alone by my father for eight weeks to watch about 400 deer while he went back to fetch my mother and younger brothers at the spring encampment. They arrived in due course with the pack reindeer which had been detached for their use, and found that we two had come to no harm, conducting a simple household in our tent far within the summer pasturage, despite the adventure of firing a gun to frighten a fox away from the calves we were guarding.

Spring develops much earlier on the Norwegian side of the frontier, and on the annual migration over the border

we left behind snow and often stormy weather, endured on long and taxing journeys, to drop into a different world, filled with the scent of green foliage and flowering trees.<sup>6</sup> For us children the next stage, by steamboat from Kvesmenes along the fiord, was equally exciting. Meanwhile the herders drove the deer overland to their goal.

About ten families used to spend the summer together at a camp on the isthmus, five miles from Lyngseidet, thus blocking retreat for the deer and freeing the herders for other tasks. The peninsula was ideal for the reindeer, offering both sea breezes and high mountains, with glaciers, as protection against mosquitoes and gadflies, which often plague them elsewhere during the hottest weeks. The undisturbed calves grew to full stature and strength. Not before the cooler autumn weather did the animals tend to come down and encroach on the farmers' fields along the shore. Each Lapp community had a 'foreman' or vice-foreman who ensured that a rota of herders kept the deer from damaging the crops.<sup>7</sup>

Each Lapp family occupied a substantial hut of rounded-cone shape, a strong framework of birch or willow poles covered with birch bark and slabs of turf. Here one lived comfortably for four or five months. For camps of shorter duration there were more fragile structures: the framework of lighter poles could be transported, by pack deer or sled, but usually remained for use on the next visit. Thin canvas or cloth covered the tents at spring and autumn camp sites, but in winter thicker material was needed, preferably wool in the form of homespun blankets, or old coats (*kolt*) sewn together.

Summer life was inseparable from foreign tourists, many of them English or American: several ocean liners on a 'Midnight Sun' cruise sometimes arrived on the same day. The whole area around our camp would swarm with people, each intent on taking home a piece of Lapp handiwork or at least a bit of reindeer antler.<sup>8</sup> Sometimes a small round-up was arranged for them, in advance, through a local tradesman, the sum paid being divided equally among the resident reindeer-owners.<sup>9</sup>

The autumn migration back to the mountains began in September. The women and children brought the household belongings to the head of the fiord in a boat (usually chartered near Lyngseidet by a group of families), pitched camp and awaited the arrival of the herd. Then the pack animals were caught, and food, clothing, tent-covers and equipment loaded on them.

Once over the watershed, we milked the reindeer cows for the first time; the calves were now strong enough to live on lichens and grass. Milking continued at the autumn camp, near Kummavuopio: for most families this was but a few miles from their spring camp site. In contrast to the joint summer herding, in autumn each family (or group, if the herds were small) watched their own deer. A round corral, fenced with mountain birches laid horizontally, branches and all, was erected near each tent, and the whole herd was driven in for some hours every day. The men then lassoed the cows and tied them to stumps, the women milking. An average deer yields only half a teacupful daily, but the milk is as rich as cream. Lapps drink it fresh with coffee

or berries, and frozen, dried or prepared as cheese during the winter and spring.

More important tasks for the autumn encampment are the supervision of the bulls' rutting season, which lasts from the end of September until mid-October, and the preceding castration of all male deer intended for winter slaughter. After the rutting season the bulls are so emaciated that they cannot even keep up with the herd during the longer stages in migration, and one prefers not to slaughter such animals for meat until after castration the following year.

Contemporary breeding methods are often haphazard, in that many owners castrate all the three- and four-year-old male deer bearing their mark which they see at round-ups, leaving it to the younger bulls, and to the older bulls which they presume have eluded them, to fertilize the herd. My father considered, however, that for a herd of, say, 500 deer, two or three strong, fully grown bulls should also be deliberately reserved for breeding.

Our mountain reindeer are only semi-domesticated animals. Every year, therefore, in the late autumn one must begin taming a few selected deer for two purposes: to assist in transport, as pack, draught and driving deer, and to lead the herd to new pasture.

The same deer are used as pack and as draught animals, but we start their training by harnessing them to the sleds which come into use with the first snow. Only castrated males are suitable. An experienced eye sees in the size of a deer's head and the shape of his antlers whether he is a likely candidate for the role: those with sharper points on their antlers, show more endurance as draught animals. It has always been fashionable to drive a white reindeer, especially to the annual market or when fetching one's bride; these deer are chosen for their beauty, despite their reputation for laziness.

A reindeer ox chosen to lead the herd is distinguished by a bell on a band round the neck and is usually led by a herder. But a deer will sometimes show, at the very outset of his training, that he is prepared to act as a 'natural' leader, without being lassoed and led; females may also exhibit this tendency. The herder need then only carry the bell or utter a special call, and is more mobile.<sup>10</sup> Such gifted deer are never slaughtered until quite incapacitated by old age; one also avoids using them as draught animals.<sup>11</sup>

By the end of November we were ready to leave the autumn camp for the winter pastures near Karesuando. Instead of loading our household goods on pack reindeer, which carry only from 65 pounds to 90 pounds, we could stow them inside a boat-like type of sled (*pulka*), in which 220 pounds to 330 pounds can be drawn by each deer. Much depends on the terrain, however: travelling in early autumn over a thin layer of snow, loads have to be light, for the sled then easily catches on stones and stumps, while the reindeer feels particularly lively at this season and can soon break up a sled and its contents over bad ground. On a very good road a fully grown reindeer ox can pull about 450 pounds in a *pulka*.

Karesuando, our 'church village,' was reached about Christmas time, the herds of each family moving into some

wooded area in the neighbourhood not already occupied by previous arrivals. It was an exceptional owner who manoeuvred around or quarrelled with his neighbours about such a matter.

For my older brother and myself this period meant school days in Karesuando and living in the care of our grandmother in a farmhouse, as the family tent was pitched near the herd, some fifteen to twenty-five miles away. We were keen to learn, but as Lappish was our mother tongue and the settled population Finnish-speaking, most of our short and interrupted school years were raked up with learning Swedish, the sole medium of instruction.

Meanwhile our seniors were busy watching the reindeer, and continuing the slaughter of suitable animals, for home consumption and for sale, which began in the late autumn. Some of the meat had been smoked earlier, but the summer supply is not prepared before the spring encampment, when calving lies ahead once more.

In describing the cycle of the reindeer-herder's year I have chiefly emphasized its positive, productive aspects.



FIG. 3. WINTER PASTURE

Karesuando Lapp Herders at Murjekshyn, 1943: photograph by Mikael Utsi

Indeed, Northern Lapp reindeer-breeding, with its ancillary activities, often rewards effort with an income which is not to be despised because it is largely 'in kind.' In 1944 the three northernmost reindeer-breeding districts of Sweden contained 28,219 reindeer and 541 reindeer-herding Mountain (i.e. not Forest) Lapps, an average of some fifty per head, or 250 for a family of five persons. Females usually produce calves yearly from the age of two to ten or fifteen, and the annual increase amounts to 20 to 30 per cent. of the whole herd. At the time of the Jokkmokk Market in 1947 the meat of the average slaughtered ox fetched £8 and its skin £1 10s. (at Kr. 14.47 to the pound sterling). These figures are not dazzling to the modern eye, but if overhead costs are kept low the necessities of life are well covered.

On the negative side, I need not dwell upon unavoidable hardships and exertions, for every seafaring race must endure the same. The most serious menace to reindeer-breeding lies in the existence of beasts of prey, such as

bears, still partly protected by game laws, and wolves and wolverines, although rewards are paid from Lapp community chests for killing them. Lynx also prey upon deer, and foxes and even eagles attack calves. Small calves may be lost in rivers, while rapids tempt full-grown deer to destruction.<sup>12</sup> Deer can slip and fall down steep mountain-sides, into holes between boulders, and through crevices in ice. Then there are the reindeer diseases, but of these deer which are herded by the 'extensive' system have usually been free.

Other drawbacks are man-made. Lapps, who have nomadized in these regions for many centuries, now share the land with numerous farmers and fishermen, whose crops and hay may be trampled by deer, their owner being liable for the damage. In some districts the deer now meet newer dangers: fast motor-cars and express trains come upon them suddenly and wreak havoc, and in *flen* years careless lumbermen fell trees on deer which have gathered to nibble the lichens on pines and spruce lying about in the clearing. Compensation for accidental deaths is usually paid, but often takes much time and trouble to obtain. Roving dogs are also a constant worry, for they chase and bite the deer. Finally, current high taxes are resented by reindeer-owners, especially as herds cannot be insured. Only thirty years ago Lapps were almost tax-free, and the change is therefore an abrupt one.

A long series of difficult problems for reindeer-owners has arisen in the course of the last century through new regulations partially closing to them the Finnish and Norwegian borders. The use of seasonal pasturelands across frontiers has been restricted by several treaties and, although joint commissions devoted years to collecting relevant facts, age-old customary rights were thereby drastically curtailed. Fines are exacted for deer which stray over a border, and if they cannot be fetched at once the cost is considerable. Meanwhile the animals may be slaughtered and sold for a small sum.

Twenty-five years ago our group in Karesuando was told that only a few households could continue to summer in Norway. The parish of Karesuando had too little space to support the rest of the deer the year round, and it was left to each community to decide who should stay and who should proceed to one of the new areas, farther south, which the Swedish authorities specified. My father was one of those who left, with his family, in 1923. A long train of reindeer-drawn sleds set out and travelled for two months, finally reaching a chain of lakes, where an official of the Lapp administration met us. In the following months we studied our surroundings, and the next year established our summer camp on a lovely shore facing islands, from which deer, fish and transport to winter pastures, over a hundred miles south-east (see fig. 3), were easily accessible. Northern friends and relatives joined us, and a settlement grew up which is now well known among Lapps, Swedes and foreign visitors to Lapland.

Karesuando Lapps have come in a similar way to many new areas in Sweden, meeting with very different types of Lapps and other methods of keeping reindeer. Adjustment and learning have been mutual, but in the main our

'extensive' summer herding has shown its worth and prevailed.<sup>13</sup>

Meanwhile, and indeed since the eighteen-nineties, Kautokcino and Karasjok Lapps were teaching Eskimos and Americans how to breed and herd reindeer in Alaska, where a tiny nucleus herd soon multiplied to tens of thousands. In the nineteen-thirties five Northern Lapps brought a nucleus herd to still another region, from Alaska to Canada, again to save Eskimos from starvation, and again with success.

In his Arctic homeland the young herder of today who owns a small herd with his personal mark on his reindeer is as keen to increase it to a large herd as in years gone by. If he can retain the interest and help of the modern Lapp girl, new ideas will only bring new energy and new hope to the profession.

### Notes

<sup>1</sup> Two notable contributions by professional Northern Lapp reindeer-breeders must be mentioned. In 1907-1908 Johan Olafsson Turi, born in Kautokcino but living near Swedish Tornetrask, wrote his famous *Muitalus Samid Birra*, edited and translated into Danish by Emilie Demant Hatt (English edition, *Turi's Book of Lapland*, transl. E. Gee Nash, London (Cape), 1931); and the artist Nils Nilsson Skum, born in Karesuando in 1872, but brought up in Gällivare parish, has from youth been illustrating reindeer-breeding methods (not, however, purely Northern), in order to appeal 'to the bent of Lapp youth for the hereditary occupation' (from the Foreword of the editor, Ernst Manker, to *Same Sita—Lappbyn*, with drawings and Lapp text by N. N. Skum, Swedish transl. Israel Ruong, *Acta Lapponica*, II, 1938, p. 8).

<sup>2</sup> In 1945 thirty per cent. of the 1,200 inhabitants were 'nomadizing Lapps' (Norrbottens läns Turistföreningen's pamphlet *Karesuando*, Luleå, 1947).

<sup>3</sup> Lichens growing on the lower branches of pine and spruce trees can serve as a substitute for short periods; but if these are covered with ice, as is usual in mid-winter, the reindeer suffer acute stomach disorders. The animal's neck is also soon overstrained through the unaccustomed feeding posture.

<sup>4</sup> I know of four *flen* winters in the last forty years, two in succession halving many Norrbotten herds (1934-1936).

<sup>5</sup> No system of insurance for Sweden's 168,640 reindeer (1947) exists, but it would certainly not be impossible to devise one.

<sup>6</sup> A painting by Emilie Demant Hatt has immortalized a herders' camp on the steep descent into Norway.

<sup>7</sup> During the years that I took part in the summer herding there compensation had to be paid only two or three times. Usually the sum was easily agreed; if not, one Norwegian and one Lapp not involved in the dispute adjudicated. Similarly, if one of the farmer's dogs chased and killed a reindeer, we declared ourselves satisfied if the farmer immediately shot his dog.

<sup>8</sup> The tourists' importunity and haste, and the young Lapps' keenness for pocket money, explain the many half-shaped antler fragments, crudely carved with reindeer, and other objects never used by a Lapp, which have found their way into museums.

<sup>9</sup> It was not, however, shared with the families of miscellaneous origin who camped in the neighbourhood simply in order to live on tourists. Many impressions recorded about our people are no doubt based on these 'tourist-Lapps.'

<sup>10</sup> Plate Ia, shows my youngest brother leading our herd to the summer pastureland, followed by such natural leaders, while my elder brother and a colleague drive the rear. Plate Ib shows the train of deer drawing loaded sleds behind and Ic shows the whole herd shortly afterwards, on its release to the mountains for the long summer holidays.

<sup>11</sup> There is some interchange of function between the two types of trained deer, but for long treks they are specialized.

<sup>12</sup> Some river banks are fenced off, the cost being met from the State-controlled 'Lapp Fund,' formed of sums paid in compensation for encroachments on the Lapps' original pasturelands and fishing waters.

<sup>13</sup> Ernst Manker, who has journeyed widely in Lapland, main-

tains that the Karesuando families have brought the industry new life in areas where it had decayed, either by gaining control themselves or by stimulating the original inhabitants to competition (*De Svenska Fjällapparna*, Stockholm (Svenska Turistföreningen), 1947, pp. 87f.).

## SOME REMARKS ON DEMOGRAPHIC FACTORS IN A SITUATION OF CULTURE CONTACT

by

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**II5** Demographic factors are usually of great importance in situations of culture contact. Problems of depopulation, impact of increasing population on economic resources, etc., abound in the literature of the subject. The exact evaluation of demographic processes in terms of the basic elements of culture-contact situations is, however, rather difficult. I propose to present in this paper a summary account of some tentative conclusions reached in the course of research work. The demographic problems constituted only a small part of the research, which I hope to be able to record more fully in a separate publication.

This research was undertaken in one of the Jewish areas of Jerusalem, Maskereth Moshe. Its main purpose was to elucidate the basic processes and problems of culture change between the Oriental Jews, the majority of the population of this area, and the European Jews, who form the greater part of the new Jewish community in Palestine. The Oriental Jews came from various countries of the Middle East (the old Ottoman Empire), Russian Asia, the Balkans and North Africa. Although many differences exist between the various Oriental communities, most of them share some characteristics which differentiate them from the modern community, and this justifies our description of the situation as one of culture contact. The main characteristics are as follows: the Oriental Jews lived in closed, traditional communities, centred on synagogues and seats of traditional religious learning, usually in wide patriarchal families connected by inter-marriage. Their main economic occupations were agriculture, various crafts, peddling and sometimes (especially among the 'Sephardic' or Spaniolic communities) large-scale finance and trade. Their 'Jewishness' consisted mainly in adherence to the religious-legal prescriptions and traditional usages, which differentiated them strongly from their neighbours. The main reasons for their migration were persecution and rather vague Messianic urges; they went to Palestine in order to live more peacefully and to be able to conform more strictly to their traditional folkways and maintain the integrity of Jewish traditional life. Here lies their main difference from the modern Jewish community, whose ultimate goal in Palestine was the realization of the Zionist ideal. Its ideology was based on secular national premises similar to that of Western rationalistic civilization. Its conception of Jewish nationalism was in a sense based on revolt against the traditional life

of the Diaspora. The 'Yishuv,' as the modern community is usually called, established a rationalistic economy with political democracy, and weakened or destroyed most of the traditional social relations and usages. With the development of the Yishuv the Oriental Jews were more and more drawn into its orbit, prompted by nationalism and the desire for economic advancement. In this way they were drawn into a new culture, entirely different from their own and from the Arab culture in the midst of which they had lived. They had to adapt themselves to this new situation, in which may be found many processes similar to those discernible in other culture-contact situations.

One of the outstanding trends among the Oriental Jews is the constant increase in population owing to the decreasing infantile death rate, which is mainly due to the medical and sanitary work of the Jewish medical organizations. Parallel developments may be found in the initial stages of transition towards an industrial organization. This increase (estimated as roughly two- or three-fold) manifests itself in an increase in the size of families compared with the pre-contact stage, about 1918, and in a change in the relative ages of parents and children and of siblings; it naturally caused great economic pressure. I began my research into the problems of adaptability to the new situation from this aspect.

In various native communities increase of population and growing pressure on economic resources lead to a low and unstable standard of living, while, at the same time, new needs arise out of the culture-contact situation, with many detrimental results. A low standard of living is common among the Oriental Jews and may sometimes be the cause of various negative phenomena—juvenile delinquency, illiteracy, discontinued education, etc. If these phenomena are taken as indices of unadaptability, it might be assumed that increase of population, by lowering the standard of living, is the main cause of this unadaptability. But although this assumption seemed plausible, the findings of the research did not substantiate it. First, the problem of economic opportunities is a complex one in Jewish Palestine. Theoretically there exist almost unlimited opportunities for the Oriental Jews within the general framework of Jewish economy, owing to the expanding nature of this economy and the lack of any bar limiting by social sanctions the scope allowed to them. This was exemplified in my investigation by the discovery of many large

families with a relatively high standard of living and of occupational status—a standard high according to the structure of the Yishuv; the increase in the size of the family did not necessarily result in a low standard of living. On the other hand, it was found that a comparatively low standard of living is apparently not the most important cause of the various phenomena seen as indices of unadaptability. Many families with a low standard of living did not manifest any of these phenomena, which, on the other hand, were found in many families with a high standard of living.

A very close correlation was found between instability in work (changing unspecialized occupations and places of work without reason or plan), negative attitude to work and the previously mentioned phenomena. This was especially evident in boys and girls between 12 and 18. Many of them showed no interest in their work or in occupational advancement, but only in getting as much money as possible by the shortest way. This resulted in pilfering, etc. But even here we could not find any close correlation between attitude to work, size of family and occupational status or standard of living. Although our sample was small, we thought that these findings justified a search for a different, more comprehensive hypothesis; and to this two facts provided the clue. It was found that many small families whose children did commit these offences were characterized either by a great age discrepancy between the parents and the children (parents 50–60, children about fifteen; quite often the elder children—if any—lived without any contact with the family), or by the bad state of health or death of the parents (or one of them). On the other hand, in most of the large families whose children did not commit those offences, the elder brother or sister (age about 25–30) was well adapted and had a predominant influence on the younger siblings, insisting on and helping in their education—general and occupational—and giving them an example of occupational and social stability (these were not, of course, the only factors in the situation, but they were the only significant ones from the demographic point of view). These facts indicated that the main results, from the culture-contact point of view, of population changes could be discerned when these altered the traditional attitudes, tasks and roles in the family. In large families the parents were faced with educational tasks for which they were not prepared. The neglect of younger

children was often the result of the age and weariness of the parents, and the lack of any traditional institutions to deal with such cases. The same effects could be seen in cases of great discrepancy in ages or of orphans. In sociological terminology we may say that in those cases the demographic changes invalidated the traditional definitions of the 'family situation,' and the role of the elder brother then sometimes became decisive, in either a positive or a negative direction. In many respects the elder brother took the place of the parents in the family situation because of his higher adaptability.

I do not wish to assert that these factors were the sole determinants of the degree of adaptability in the culture-contact situation; I have only tried to indicate how the demographic factors fell into the general context of the situation. The increase in population gave rise, of course, to the problem of new economic opportunities, etc.; the main problem from this point of view was the adaptability to the new culture. The effect of demographic factors on this adaptability was as I have indicated. With the disappearance of the traditional socializing agencies, the *eda* (community), the traditional school, synagogue, etc., the family remains as the principal socializing agency. In so far as it is able to adapt itself to the new situation, utilize the opportunities open to it and transmit the new attitudes to the next generation, the process of change is relatively peaceful. Otherwise it gives rise to the negative phenomena described. The conclusion is, then, that demographic factors affect the culture-contact situation in two main ways, (a) as they upset the existing balance between population and economic resources, and (b) as they condition the change of the structure and functions of the family as the main socializing agency. From the point of view of adaptability to the new situation (new culture) the second point is, of course, the more important. All other processes, I believe, could—and should—be related to the family situation either as causes or indices of unadaptability.

My aim in this discussion has been mainly to indicate the general theoretical framework for relating demographic changes to processes of culture contact. As my research was undertaken in a small area these conclusions should be seen as hypotheses, to be retested on a larger scale in different research fields. Special emphasis should be laid on a comparative study of the main socializing agencies in different types of culture contact.

## ROYAL ANTHROPOLOGICAL INSTITUTE PROCEEDINGS

**The Origin and Nature of Social Life and the Biological Basis of Co-operation.** By Professor M. F. Ashley Montagu, Department of Anatomy, Hahnemann Medical College and Hospital, Philadelphia. Summary of a communication to the Institute, 15 June, 1948

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The lecturer presented evidence in favour of the view that the fundamentally social nature of all living things has its origin in the physiological relationship between parent and offspring:

and also for the view that the biological basis of co-operation has its origins in the same sources as social behaviour, namely, in the process of reproduction, in the fact that the maternal organism and its offspring are for a time bound together in an interactive association. Social, co-operative behaviour is essentially the continuation and development of the maternal-offspring relationship. Co-operative, social behaviour is therefore as old as life itself, and the direction of evolution has, in man, been increasingly

directed towards the fuller development of co-operative behaviour.

With the knowledge of these facts it is up to the anthropologist to assume his proper place in the task of remaking a sick world. He must become a 'politico-anthropologist' in the sense in which Aristotle defined politics as the complete science of human nature.

The anthropologist must apply what he knows of the nature of human nature to the solution of the human problem, for every man in our time is a problem in search of a solution, and to be a human being is to be in danger. The anthropologist should make it his chief task to solve the human problem and free man from the danger which confronts him.

## SHORTER NOTES

### International Congress of Prehistoric and Proto-Historic Sciences: Proposed Meeting at Budapest in 1949.

**II7** *Report on a meeting of the Permanent Council, communicated by Professor C. F. C. Hawkes*

Probably most readers of MAN will need no reminding that this Congress, which was first organized in 1931 and which met in 1932 in London and in 1936 at Oslo, is the accepted organ of international co-operation in prehistoric and early historic archaeology and related studies. At the Oslo meeting its Council resolved to accept the invitation proffered by Hungary for it to meet next in 1940 at Budapest, and the Hungarian Professor Tompa was elected President. Everything was of course brought to a standstill by the war; the archives of the Congress and the Report of the Oslo meeting, still in the press, were destroyed in the German occupation of Norway; and in the bombing of Budapest the President-Elect was killed. The Secretary-General who had organized the Oslo meeting, however, was by the Congress's constitution still in office: this was Dr. J. Boe, Director of the Museum of Bergen, and after the war, in agreement with his Hungarian colleague Professor J. Banner, who had succeeded Tompa at Budapest, he began at once to work cautiously towards reviving the Congress by means of a re-assembly of its Council. During the last nine months his resumption of contact with most of the survivors of the pre-war Council enabled him to invite them to meet in June at Copenhagen, and on 24 June the meeting took place.

There were present nineteen members and national secretaries, from Belgium, Denmark, Finland, France, Great Britain, Holland, Mexico, Norway, Spain, Sweden and Switzerland: Great Britain was represented by Professors Childe and Hawkes. After Dr. Boe, in the chair, had explained the course of events which had led from the situation created by the war to the holding of the meeting, the Council proceeded to revise and fill up its complement of members and secretaries. In so doing, in accordance with the provision of the constitution, the Council, while taking account of the advice of such representatives of the countries concerned as were present, did not confine its survey to names submitted by them. The membership has thus been brought to nearly a hundred, representing nearly forty countries. The list for the English-speaking countries is now as follows (\* indicates national secretary): Great Britain, Professors Childe, Hawkes, \*Piggott, \*Dr. Grahame Clark; Eire, Professor O' Riordáin, \*Dr. Raftery; South Africa, Dr. Goodwin, Professor van Riet Lowe; Kenya, Dr. Leakey; Malaya, Mr. Tweddie, \*Mr. Collings; U.S.A., Drs. Hencken, Guthe, \*Braidwood, \*Griffin. Sir John Myres (ex-Secretary-General), Sir Charles Peers (ex-President) and Dr. R. A. S. Macalister, retiring from the Council, were placed on the Committee of Honour. A few persons also were appointed to the Council not as national representatives but as individuals, among them Dr. Gerhard Bersu, from 1931 to 1936 a member for Germany and now Professor in the Royal Irish Academy, Dublin. The question of Germany's status on the Council was held over for further consideration later.

The Council then considered the place and time of the next meeting of the full Congress. It was explained from the chair that

the Hungarian representatives earnestly wished the pre-war invitation to Budapest to stand, and that their Minister of Education, in an official letter to Dr. Boe, had expressed his Government's eager desire that the Congress should meet at Budapest in 1949. Professor Banner, speaking for his country in reply to questions, assured the Council of the sincerity and cordial intent of the invitation: visas had been guaranteed, accommodation and an effective showing of the archaeological wealth of Hungary could be fully counted on; and he was confident of a thoroughly successful Congress, if the Council would decide for acceptance. The motion for acceptance was accordingly put to the vote and was carried unanimously. Professor Banner was elected President, with Dr. Parducz of the Hungarian National Museum as his new Secretary-General, and thereupon took the chair. The result of the Council's ensuing decisions is as follows:

The Congress, unless unavoidably prevented, will meet at Budapest on 3 September, 1949. Communications will be freely invited on all topics within its scope. At the same time, attention will be particularly invited to the palaeolithic, neolithic, and chalcolithic archaeology of Hungary, the Cimmerian question (later Bronze and earliest Iron Age), the Scythian and Sarmatian question (early and later Iron Age), and the problems of the Migration period in Hungary and the neighbouring regions. Any further suggestions of subjects for particular attention will be gladly received by the Hungarian authorities, and should be forwarded if possible by 1 October (preferably through representatives on the Council: for Great Britain, through Professor Hawkes, Keble College, Oxford). After the sessions in Budapest itself, there will be two excursions, to the Alföld country and to Transylvania, including visits to excavations at the famous Bronze Age site of Tószeg, in Migration-Period cemeteries, etc. The Hungarian committee will hope for a large attendance, of both sexes, and will set out to do everything possible to ensure the success of the venture.

Official circulars announcing the arrangements may be expected in due course, and will be noticed in MAN. A somewhat fuller account of the Council's proceedings at Copenhagen will appear in French in the next number of *L'Anthropologie* (Paris). Meanwhile this earliest opportunity is taken of making the project of the Congress known to all likely to be interested.

NOTE.—It may be hoped that the Permanent Councils of the International Congresses of Anthropological and Ethnological Sciences, of Prehistoric and Proto-Historic Sciences, and of Americanists will give early consideration, in consultation with each other, to the restitution of the pre-war synchronization of their 'orbits.' The first two used to follow each other at two-year intervals, and the Americanists held their biennial meetings alternately in the Eastern Hemisphere, in the years when the Anthropological Congress met, and in the Western Hemisphere. Apart from the logicity of those arrangements, they had an important advantage for the individual scientist (and therefore for the success of Congresses), which has now been much enhanced by post-war conditions: fewer than before can afford to travel abroad without subsidy, which is also more difficult to obtain, and this naturally applies *a fortiori* when application is made by the same person in successive years. The succession was in a fair way to being reconstituted, when the Prague meeting in



1947 of the Anthropological Congress was cancelled (owing partly, it is believed, to a foreign veto) at such short notice that an alternative meeting place could not be arranged without a year's delay. By the time this issue of MAN is published, the Brussels meeting of the Anthropological Congress may have considered whether the Fourth Meeting should take place in 1951 rather than in 1952: but in the present state of international relations this might not be enough to set matters right.—ED.

### South African Prehistory in the War Years: Part I.\*

**118** By A. J. H. Goodwin, M.A., F.R.S.S.Af., Senior Lecturer in Ethnology and Archaeology, University of Cape Town

#### General Problems

Wars should tend to initiate a period of scientific digestion, during which the accumulated welter of individual papers can be assessed before further research is undertaken. This is proving true in the prehistoric field in southern Africa. The array of questions raised by this accumulation has been adequately covered by B. D. Malan<sup>1</sup> in his Presidential Address to Section E of the South African Association for the Advancement of Science. This paper is hardly constructive, but consists of a series of doubts and questions evoked by the paucity of trained workers and the gaps in our knowledge of our vast field, and to meet these problems he urges the need for a full and reliable textbook on South African prehistory, containing a re-description in the light of subsequent study of most of the cultures already known. Such a work should throw light upon the relationship of the Middle Stone Age to other major periods; the persistence of *coups-de-poing* into such Middle Stone Age cultures as the Pietersberg, the affinities of bifaced lance heads in a variety of areas and materials, the cultural position of the tanged arrow point, colour sequences and styles in prehistoric art and so on. Such problems might be multiplied infinitely.

It was to meet this need that the South African Archaeological Society was founded in 1945. By the publication of a series of handbooks it is hoped that a foundation will be laid in all aspects of prehistory in South Africa. The number of trained workers is far from adequate, and students can receive an adequate training only at the University of Cape Town. Storage space in museums is everywhere extremely limited, while there are no openings in the country for trained prehistorians. The salaries paid to highly qualified museum assistants are far less than those received by schoolteachers, and the research funds and facilities available to members of any museum staff are wholly inadequate. These difficulties can only be met by a policy of education, and this is the primary aim of the Archaeological Society. The Society produces a Bulletin series and an annual Handbook. The former is essentially popular, but contains research articles. The latter is intended to lay a firm factual foundation for the study of prehistory in South Africa. The second Handbook<sup>2</sup> gives a select bibliography and commentary on South Africa prehistory to 1946. It is not intended to use the same approach or to cover the wide field that was there covered in this present article.

#### The Quaternary Period

H. B. S. Cooke's analysis of the Quaternary Period<sup>3</sup> is an important geological and faunal contribution. He points out that archaeologists . . . with few exceptions have made no real attempt to fit the succession of cultures and deposits into a geological frame. At the same time, geologists generally have paid little attention to the superficial deposits with their contained artifacts, and have not fully appreciated the possible use

of Stone Age tools for correlative and zonal purposes. Vertebrate palaeontologists too have for the most part confined themselves to the mere identification and classification of isolated specimens with little regard to their geological and archaeological relationships.

In defining the Pleistocene he follows Hopwood and Haug in regarding the groups *Bos*, *Elephas* and *Equus* (in their broadest connotations) as the stigmata of the Pleistocene and the passing of the Plio-Pleistocene border. Basing his deductions on the early work of A. V. Krige he deals with South African raised beaches and coastal deposits. He then passes on to non-fluvial deposits of the interior, to cave deposits, river terraces and alluvial deposits. A *résumé* of Pleistocene mammalia, a useful series of tables relating these broadly to the deposits cited above, and a final chapter on correlation bring this important and useful contribution to an end. This work is a pioneer survey effort, bringing together various elements of evidence and clearing the field for further advances. The paper is somewhat inconclusive, but no more than is to be expected in the present state of our knowledge. Apart from the accumulation of data, however, the limits of the Quaternary must necessarily be a subject for agreement between the various experts in appropriate fields, and finality must await their criticism and deliberations.

A paper by L. H. Wells, Cooke and Malan,<sup>4</sup> in which the Vlakkrail fauna is described and identified, throws some additional light on the subdivisions of the Quaternary. The deposits yielded a good series equalled only by material partly described by Dr. Dreyer and Miss Lyle from Florisbad. At Vlakkrail the associated industry seems to be homogeneous, and is ascribed by Malan to the Mazelspoort culture, an advanced and presumably late Middle Stone Age culture, which is also present at Florisbad. The authors adduce evidence of a distinct climatic break which may have coincided with (and may even have determined) the end of the Middle Stone Age in this area. They suggest that this climatic change in the summer rainfall area might well be accepted as marking the end of the Pleistocene here, making the Mazelspoort implements representative of the Final Pleistocene in date. The local facies of the Later Stone Age would thus initiate the Holocene or Recent Period.

The evidence suggesting that in the summer rainfall area the Middle Stone Age was ended by a dry period is repeated at Lochar. In Southern Rhodesia Geoffrey Bond<sup>5</sup> and Neville Jones<sup>6</sup> have given a good exposition of the general relationship of man and climate in this area. Bond's analysis suggests that the (probably) Lower Pleistocene was marked by a wet and a dry period. His Middle Pleistocene yields a wet, a semi-arid and the beginnings of an arid period which include a possible pebble culture, an Acheulian phase and the Bemba culture. His Upper Pleistocene starts with the Proto-Stillbay (previously known as the Bambata culture) and shows the continuation of the arid phase, followed by a wet phase, a further arid period and a final wet phase which ends the Upper Pleistocene. The Holocene is ushered in by a semi-arid climate, a wet phase, a semi-arid period and a wet to semi-arid phase leading to present conditions. Bond uses his geological deposits to delimit his Pleistocene, and in a second table he correlates his evidence with that from the Victoria Falls, with the Vaal River succession and with the East African climatic series, clearly limiting his Lower, Middle and Upper Pleistocene beds.

Unhappily this paper does not take into account the pre-war work of Cooke and Clark<sup>7</sup> which gives a well illustrated account of cultures in the immediate neighbourhood of the Victoria Falls. In the succession of climates there recognized, the Kalahari wet phase leads on to the Kalahari arid period, which together cover the Pre-Abbevillian rostro-carinates and tools made from nodules

\* Parts II and III will follow in succeeding issues of MAN.



of chalcidony. This is followed by an Earlier Wet Phase, covering the Chelles-Acheul development of this area. An Earlier Dry Phase ushers in the Rhodesian Fauresmith, which gives way to the faceted-platform cores and associated flakes with the appearance of the Later Wet Phase. Towards the end of this climatic period the Lower Rhodesian Stillbay appears, and develops into the upper phase as the Later Dry Period makes itself evident. The Rhodesian Wilton seems to cover the Latest Wet Phase and the Latest Dry Phase and to pass into the present conditions.

Cooke<sup>3</sup> gives a brief account of these deposits, and states that the sands associated with the Older Falls Gravels yielded an elephant (*Palaeoloxodon darti*) of very late Middle or even Upper Pleistocene affinities, which would seem to place the local Chelles-Acheul evolution as of analogous date. As Bond equates the Older Falls Gravel with his Alluvium I (First Middle Pleistocene Wet Phase) which is typified by an uncertain pebble culture, and is followed by the Chelles-Acheul development, there is some discrepancy here.

An attempt by J. C. Smuts, Jr., to give an account of climatic changes in the Witwatersrand area<sup>8</sup> takes the earliest tools back to the Pliocene and follows their developments as far as the Lower Chelles-Acheul stages. Evidence is largely drawn from pan formations (wind-eroded depressions, with subsequent drainage history) and is not yet convincing, especially in the Pliocene dating of early forms.

In all, study of the climatic history of South Africa may well develop along lines that should reveal a series of climatic horizons. These will eventually help to date our prehistoric tools as satisfactorily as glacial periods do in Europe. Perhaps of greatest interest are the wet phase associable with the Chelles-Acheul development, and the dry phase which seems, on the earlier

evidence of van Riet Lowe, and in the more recent opinions of Wells, Cooke and Malan<sup>4</sup> and of Neville Jones<sup>6</sup> and Bond<sup>5</sup>, to have ended the Middle Stone Age. The definition of the phases of the Pleistocene in terms of fauna alone is inadequate, and the interrelation of deposits over a very wide area will also have to be studied before we can define the Quaternary with any degree of exactness. When this is done account will have to be taken of differing conditions and deposits in the various rainfall areas—Summer, Winter and East Coast.

#### Notes

<sup>1</sup> B. D. Malan, 'Some Problems of the Stone Age in Africa,' *S.A.J.S.*, Vol. XXXIX (1942), pp. 241-86 (with bibliography).

<sup>2</sup> A. J. H. Goodwin, *The Loom of Prehistory* (1946).

<sup>3</sup> H. B. S. Cooke, 'A Preliminary Survey of the Quaternary Period in Southern Africa,' *Bur. of Archaeology, Arch. Ser. No. IV*, pp. 59 (with bibliography).

<sup>4</sup> L. H. Wells, H. B. S. Cooke and B. D. Malan, 'The Associated Fauna and Culture of the Vlakkraal Thermal Springs, O.F.S.,' *T.R.S.S.Af.* Vol. XXXIX, pp. 203-33 (with illustrations and bibliography).

<sup>5</sup> G. Bond, 'The Pleistocene Succession near Bulawayo,' *Occ. Papers Rhod. Mus.*, Bulawayo. Vol. XII (1946), pp. 105-15 (with chart).

<sup>6</sup> Neville Jones, 'The Archaeology of Lochard,' *Occ. Papers Rhod. Mus.*, Vol. XII (1946), pp. 112-47 (illustrated).

<sup>7</sup> H. B. S. Cooke and J. D. Clark, 'New Fossil Elephant Remains from the Victoria Falls, Northern Rhodesia; and a Preliminary Note on the Geology and Archaeology of the Deposit,' *T.R.S.S.Af.*, Vol. XXVII (1939), pp. 287-320 (illustrated).

<sup>8</sup> J. C. Smuts, Jr., 'Climate and Prepalaeolithic Artifacts of the Witwatersrand,' *T.R.S.S.Af.*, Vol. XXXI (1943), pp. 39-68 (illustrated).

## REVIEWS

### PHYSICAL ANTHROPOLOGY

**Genetics, Medicine and Man.** By H. J. Muller, C. C. Little and Laurence H. Snyder. Cornell Univ. Press and Geoffrey Cumberlege, 1947. Pp. ix, 158, illus. Price 12s. 6d.

**119** **Ourselves Unborn: An Embryologist's Essay on Man.** By George W. Corner. Yale Univ. Press, and O.U.P., 1945. Pp. xiv, 189, illus. Price 5s 3

Those who read the first of these books may agree that the gene inadvertently puts miracles to shame. Those who also read in the second book accounts of the gene in action in the early development of man and other animals will not be disillusioned; this book is in a measure, a sequel to the first, though since the two were produced independently the linkage is naturally imperfect. Both books are based on courses of lectures, delivered at Cornell University and at Yale respectively.

How far the science of genetics has established claims to importance outside the field of biology is indicated by Dr. Snyder's statement that studies of its human relevance have been incorporated in curricula of medicine, of community law, of sociology and social administration, and of psychology; but this is perhaps an American achievement. Eugenics and anthropology are obviously well within the sphere of influence and the latter has, indeed, already admitted blood groups to its fellowship. The subject is also, perhaps, not without interest to the philosopher in his more reflective moments.

The first two chapters of the book deal with 'Genetic Fundamentals' (Dr. Muller) and it is not necessary to discuss in detail his brief but lucid account of the behaviour of chromosomes in mitotic and meiotic cell-divisions, of genes and their chemical constitution and properties, of 'crossing-over' and the resulting exchange of genes between some paternal and maternal chromosomes, and of the reducing division. Other topics in his introductory

section are the Mendelian rules, mutation, linkage, the duplication of genes, and the significance of sexual reproduction in the evolutionary process, of which it is described as the 'handmaiden,' and as having 'no primary use for living things apart from this' (p. 61).

In his two chapters ('Parental Influence' and 'Growth and Individuality') Dr. Little considers the parental influence from genetic and uterine to post-natal, including training. The subject of the relation of genetics to medicine is examined from the biological and functional points of view. Stress is laid on the necessity for expanding the controlled investigation of genetic effects in laboratory animals, and examples are given of results attained, largely with mice, in connexion with lethal genes, rates of growth, and the conditions favouring the production of tumours and cancers.

In Dr. Snyder's two chapters ('Human Heredity' and the 'Mutant Gene in Man') we are confronted with a multitude of facts concerning the genetics of man and with a number of genes concerned very largely with diseases, many of which appear, to the layman, as very obscure indeed. Fortunately, most mutant, and usually detrimental, genes are recessive and so are less likely to be able to produce their damaging effects. The human genes that have been identified run well into the hundreds, and in many cases their relative locations in their chromosomes have been determined. Chromosomes have in this way been 'mapped,' though in proportion to the hundreds or even thousands of genes in a chromosome the number of located genes is very small, and one may assume that the idea of a complete map of any chromosome is fantastic. However, this genetic topography represents perhaps the most spectacular achievement of the geneticist, though not the most important. Dr. Snyder gives diagrams showing several 'maps' of human autosomes and sex chromosomes, the latter being especially well adapted for the discovery of locations. Methods of obtaining data for human

genetics are explained, and various ways are indicated in which the medical practitioner may turn knowledge of the subject to merciful ends. The Rhesus factor receives special attention, and the medico-legal importance of blood groups in general is explained. Dr. Snyder's last chapter concludes with a discussion of the onto-genetic and phylogenetic relations of human mutant genes.

Of the gene as of the atom, in their several manifestations, we may say 'I believe because it is incredible.' What is the nature of the genic 'memory' that extends backwards over many millions of years? How for example, have a number of genes, through their innumerable generations, combined to 'remember' to provide embryo man with branchial arches, or their homologues (destined to other skeletal ends), as a reminder that remote ancestors of ours, living an aquatic life, had need of gills and gill arches? If we appeal to chemistry for an explanation, it must be to a chemistry whose formulæ are in any case incomprehensible. Biochemistry is not enough. We are such stuff as genes do make of us, and it is they who keep alive the memories of a climb whose purpose is obscure. If man is master of his fate, the genes are the masters of man, and his freedom is limited and fettered; but it suffices to enable him to pursue his course as the Greater Ape with notorious success.

To conclude a very imperfect survey, this book should have many readers, including those anthropologists who extend their interest to genetical man. It should be said that the authors' treatment of their subjects goes far beyond that of a conventional introduction to the study of genetics, and that there are indicated many unexplored and promising fields for future research.

'Ourselves Unborn' can scarcely be said to justify the statement that 'no previous knowledge of biology is required' from its readers. Some of these may find the contents less easy of assimilation and perhaps less romantic, than the title might suggest; but to interpret austere the headings of the three chapters of the book as Embryology, Teratology, and Taxonomy, respectively, would do less than justice to the author's wide range of treatment and manner of presentation.

The first chapter, 'The Embryo as Germ and as Archive,' enters

into much detail concerning the foetal membranes and the placenta. The account of the development of the external form and internal organization of the early embryo itself is of necessity condensed, but it contains much that will interest the adventurous 'general reader,' and even the general anthropologist. Since no human embryo of the first week is known, those of other mammals are called in to give evidence, as are they also of later stages, and this frequent and necessary use of comparative treatment adds much to the value of the book as a whole. It may be noted that the author describes the youngest known human embryo, obtained in 1942 and believed to be seven-and-a-half days old, as little more than a hollow sphere of embryonic cells, an early stage—the blastocyst—which is passed through by many animal embryos.

The chapter on 'Prenatal Fate and Fore-Ordination' deals mainly with 'accidents' which embryonic flesh is heir to, though the subject branches out in various directions. Some of these accidents lead to the disintegration of the embryo *in utero*, others to malformations and monstrosities such as *spina bifida*, cyclopean eyes, extra limbs, and 'Siamese twins.' Much knowledge of abnormal development and its causes has been derived from experiments on the lower animals and of some of these the author gives accounts. Genetics are touched upon only incidentally, as for example, in relation to the action of some lethal genes and to the incidence and significance of the Rhesus factor.

The final chapter, on 'The Generality and the Particularity of Man,' is largely concerned with his place amongst the mammals and with the views that have prevailed at various periods, including the present day. In the author's opinion the embryological evidence supports what may be regarded as the orthodox view, namely that man is 'closer to the great apes than to any other animals.' He does not exclude *Tarsius* from the picture, however, since on the embryological evidence, including the characters of the placenta and its attachment, he would classify the Primates in three groups: man and the great apes, the Old and New World monkeys, and *Tarsius*. This last chapter, at least, need give no qualms to any anthropologist, however sociologically conditioned. H. S. HARRISON

## AFRICA

**Maze of Justice.** By Tewfik el Hakim (translated by A. S. Eban). London (Harvill Press), 1947. Pp. vii, 122. Price 7s. 6d.

**120** This novel, excellently translated by A. S. Eban, is by one of the best-known contemporary writers of Egypt. It is a tale of peasant life in Egypt, full of humour, irony, pathos and indignation, which gives a more illuminating picture of both the fellah and his relations with the effendi bureaucrat than is to be found in any more learned account. Besides being an exciting and entertaining story it is a bitter indictment of the legal and administrative systems under which the wretched peasant of Egypt suffers and a document as important to the social historian as Taha Husain's well-known autobiography. It has a further interest in that it is, like Taha Husain's book, a departure from the literary conventions that have for so long imprisoned Arabic literature in an archaic form which, though in many ways pleasing, limits the development of drama, poetry, and fiction. I hope that the success of *Maze of Justice* will correspond sufficiently to its merit to encourage the Harvill Press to give us more of Tewfik el Hakim's writings in English translation. E. E. EVANS-PRITCHARD

**Migrant Labour and Tribal Life.** By I. Schapera. O.U.P., 1947. Pp. xi, 248. Price 18s.

**121** This book supplies a description of another facet of the life of the Tswana people of the Bechuanaland Protectorate of southern Africa. From the pen of the same author we have had in the past *Married Life in an African Tribe* (1940), *Native Land Tenure in the Bechuanaland Protectorate* (1943), *Handbook of Tswana Law and Custom* (1938), *Political Annals of a Tswana Tribe* (1947), and many shorter papers and articles. This book adds to and supplements these previous descriptions, and full appreciation of the social situation in the Bechuanaland Protectorate can only be had from a study of all these publications.

The appearance of this volume is all the more welcome, since we have in it, for the first time, a comprehensive and extensive enquiry into a topic which has long been the subject of much heated controversy, not to say speculation. The gold mines in the Witwatersrand draw much of their labour from tribal territories, such labour being of a migratory nature in that the tribesmen are taken (or go) to the gold mines, serve a particular period there and then return to their tribal territories.

Those interested in the welfare of the tribal areas have long commented, often without much evidence, on the effects of this system both upon those who are left behind and upon those who are subjected to the disorganizing influences of an urban milieu at the mines. Such philanthropists have advocated measures which in various ways would curtail the periodic migration and otherwise forcibly control it. In this book are presented a vast number of facts adduced by an objective sociologist and these are a valuable corrective, in many ways, for misconceptions currently held. Professor Schapera has shown in a most convincing way that a system of migratory labour is essential if the Territory is going to maintain its present standard of living. Most men can only satisfy their financial and other needs by some system of wage-earning outside the Territory. The economic development of the Territory cannot supply any other means of supporting this standard of living. Furthermore he shows that this phenomenon has been in existence for many years and that it has by this time become institutionalized into the tribal culture as part of the 'maturational process' which any young man might expect to experience, much in the same way as the initiation ceremonies in the old days.

The popular idea that returned tribesmen cannot easily return to their tribal life after being subjected to an urban social environment is dispelled when Professor Schapera points out that most of the now stable and conservative tribesmen were themselves once young men

newly returned from the cities with modern ideas and modern manners. He shows that the influence that a trip to the mines for instance has on any particular tribesman depends largely on whether that tribesman has already made a break from tribal life and has been educated in the Union of South Africa or whether in fact he has been educated at all. The relatively uneducated tribesman who goes to the mines is little affected by the foreign city environment.

There is practically no aspect of the phenomenon of migratory labour which has not received attention in this book; the extent, method, cause and effect of this universal phenomenon of southern African tribal economy are all discussed. Furthermore, in place of the usual vague generalizations we find in this book, happily, an abundance of statistical material. On the basis of his findings Professor Schapera is able to make a number of recommendations which in his opinion would reduce the more deleterious effects, if not the incidence, of migratory labour. He recognizes, however, the firm necessity for the continued existence of the practice and points out that too stringent restriction would in turn have an impoverishing effect on the Protectorate's economy. By and large,

of course, labour migration is only a part of a large economic system and, fundamentally, to reduce its incidence a complete economic reorganization of the Territory is necessary. Professor Schapera realizes that palliatives will do little to ease the situation.

Although, as the author points out, much of the information is now out of date (it was prepared as a report to the Protectorate Administration in 1943), it is nevertheless a model for future studies in Southern Africa, and there is no denying that such studies are urgently needed. To what extent they can be conducted within the present system of one-man research is a moot point. Professor Schapera, who has himself succeeded admirably in his study, recognizes that special studies, especially in demography and economics, are urgently needed to supplement his work. This seems to point, in keeping with recent trends in social research in Britain and the U.S.A., to the necessity of such future research being conducted within a team framework in much the same way as at the Rhodes-Livingstone Institute of Northern Rhodesia.

J. C. MITCHELL

## ASIA

**Esquisse d'une Ethnographie navale des Pays annamites.** By Pierre Paris. *Extrait du Bulletin des Amis du Vieux Hué, Hanoi, No. 4, Oct.-Dec., 1942, pp. 351-450, with plates and maps*

Pierre Paris continues, in this work, the ethnographic research concerning the craft of that part of the Far East which his namesake, Admiral Paris, so admirably began. Until the present essay, which is a descriptive summary of the sea and river craft of the Annamite region administered so sympathetically by France, little was on record on this particular subject. It is indeed fortunate that the task of remedying this lack of information should have fallen into such capable and discriminating hands. The work is a worthy companion to Jacques Bidauld's *Pirogues et Pagayes*. To these writers we owe gratitude for their careful records of maritime activity in this part of Indo-China. The present work in particular is of very great value, for comparatively little has been published about the craft of this region. Here we now find descriptions given with a wealth of detail which will be of immense value to those who may desire to continue the study of boats of this region and to those whose interest is directed chiefly to the ethnological questions which arise.

In only one particular is there occasion to criticize this work; this concerns the technique of the press from which it issues. This is the more to be regretted when one sees the infinite trouble to which the author went to illustrate his subject by means of a wealth of photographic illustrations. Unfortunately the photo-printer did not live up to the high standard that we expect in French publications—the art of reproducing illustrations with delicacy and great clarity. The author deserves our sympathy!

The work, notwithstanding this failure on the part of the printers, is one of inestimable value; dealing in detail as it does with the types of boats of this little-known region, it enables us now to assess the extent to which local boat-building owes its inspiration to Chinese contact and influence and to Malayan.

In Chapter I there is an excellent *résumé* of the known facts concerning the details of those early Annamite types immediately preceding present-day models. It is of interest to note how ancient characteristics are being quickly supplanted by methods of construction coming from the westward, such for example as the rapid disappearance of the two-legged mast of A form from the Red River, due probably to the introduction of wire-rope shrouds. A historical *résumé* of what is on record concerning the craft used in Annam in former times then follows, and has much interest. The author adduces evidence to show that as late as the middle of the eighteenth century the planks of Annamite boats were sewn together with rattan and were already craft of from 100 to 150 tons measurement. They must have been leaky craft, for effective caulking was not practised and there were no frames; in this latter peculiarity they seem to have approximated closely to the masula boats of Madras.

The English author J. Barrow is quoted as vouching for the great diversity of craft used afloat, some being of Chinese design and others of Malay origin. Paris laments the many lacunae in our knowledge of Annamite boats of former days, for the records of old-time travellers seldom give a clear description of any of the boats then in use.

A special mead of praise has to be accorded to the map (Pl. CXXIII) of the Annamite region, on which are depicted small sketches of the particular type of craft in use in the various localities. This is an admirable feature, for it gives the distribution of each type in a graphic manner which saves the reader continual reference back to the printed descriptions.

This essay sets a high standard for future regional accounts of the variations of boat construction typical of different localities, except that it does not provide a bibliographic appendix giving the sources from which information has been derived—a matter to which every author of a scientific memoir should give adequate attention.

JAMES HORNELL

## EUROPE

**Roman Dynamism.** By H. Wagenvoort, with introductory note by H. J. Rose. Oxford (Blackwell), 1947. Pp. xii, 114. Price 15s.

These 'studies in ancient Roman thought, language, and custom' are an important contribution to early Mediterranean anthropology. They were first published in Dutch in 1941, under the title *Imperium*, and an English version is very welcome. As Professor Rose explains, Mommsen and his followers conceived Romans as 'thinking along the lines familiar to European jurists and legislators of the nineteenth century.' But traces of 'early and savage processes of thought lingered in the very words they used'; and Dr. Wagenvoort combines his philologist's training, to analyse the words themselves and trace their history, with comparative study of the belief of early mankind.

Quite apart from the revolution thus effected in our conception of

early Roman culture, shaped on primitive foundations under strong foreign influences, mainly Greek, such studies serve to warn administrators of non-European peoples of the recurrence of such transformations, and the creation of 'fossils' from the earlier pattern of régime in the behaviour of Europeanized natives.

Dr. Wagenvoort, as Professor of Latin at Utrecht, writes with profound knowledge of this and kindred languages, as well as wide study of anthropological literature, especially (as would be expected) from Dutch Indonesia, one of the regions in which the notion of *mana* has been most fruitfully explored. His extreme caution and modesty in propounding his own suggestions, only after the most thorough criticism of other theories, is apparent throughout; and he ends with an appeal to other students to reward him with criticism as frank, and conclusions as firmly based.

By 'dynamism' he means the belief in a power or powers in nature and society not embodied in personal 'spirits,' but inherent in natural objects; or in men, and liable to transfer to other such vehicles by processes of which he selects for examination what is described by the Latin *contactus* and *contagio*, the former conferring such powers, the latter depriving or contaminating them. A special instance is the Roman conceptions of *imperium* conferred to augment the innate powers of a public functionary; of *numen* as equivalent

of *mana*, in such notions as *di novensiles*, *di indigetes*, and *indigitamenta*; of qualities or attributes like *gravitas*—for Indonesian *mana* is 'heavy'—and *majestas*—for 'being bigger' is an attribute of power. The kindred conceptions of *genius* in men, or *juno* in women, are explained by the *vis genitalis* which creates and binds together the members of a natural family, and binds them also to their native soil. Every chapter is full of original and helpful matter. There are excellent indices and bibliography. JOHN L. MYRES

## CORRESPONDENCE

**The Bolas and its Distribution.** Cf. MAN, 1947, 169; 1948, 53 and 113

**124** SIR,—With reference to Dr. Harrison's comments on my letter about bolas, I agree that the points raised are primarily terminological, in which connexion I should cavil to start with at Dr. Harrison's use of the expression 'a bolas,' 'bolas' being a plural word. In any case, provided the use of the same principle—that of entangling the animal by the use of a weighted cord (or cords), which wraps itself round the limb struck by reason of the centrifugal weight—is recognized, whether the balls be thrown free or not, it does not seem to matter much whether the term 'weighted cord' is used or 'bola,' which is just a ball (or weight) with the cord taken for granted. But as for the *siriko* I should be interested to know how anyone supposes that an implement of that size, not more than nine inches long over all, could be used at dragonflies otherwise than as a missile. J. H. HUTTON

University Museum of Archaeology and Ethnology, Cambridge

**125** SIR,—A reference to spherical stones of the Mousterian culture in Europe occurs in G. G. MacCurdy, *Human Origins* (New York and London, 1934), Vol. I, p. 137. They are reported from La Quina and Les Rebières I (Dordogne). Groups of three are reported to have been found, and one example was broken, the halves being found 'cemented' together in such a way as to suggest that they had once been inside a skin covering. It is to be noted that these Mousterian balls were pecked and not flaked with facets as in Dr. Leakey's specimens. The sharp surface of the Olorgesailie specimens, however, suggests that they too were once protected from bruising by a covering. In fact a stone in a skin bag on a thong is so simple an artifact that it may have had more than one origin and, once discovered, its use almost naturally would lead to elaboration in the direction of the bolas. C. A. BURLAND

**Building Materials.** Cf. MAN, 1948, 69

**126** SIR,—Dr. Peate, noting Dr. Neaverson's conclusion that the castles of North Wales are built almost entirely of local materials, comments that it is 'a healthy antidote to the recent strange tendency among theorists to maintain that local materials have little to do with early building.' He is perhaps alluding to my Presidential Address last year to the Folk-Lore Society, in which I gave examples, many of them taken from Professor Dauzat's admirable *Le Village et le Paysan de France*, to show that the sturdy peasant who designs his own house to suit his own needs and builds it of the materials most readily available is a creature of fiction, and that house types tend to be prescribed by custom and fashion rather than by the needs of the occupant or the suitability of the local materials.

That this is so is proved by the fact that an expert can date to within about twenty-five years any house built since the Norman Conquest, for it cannot be supposed that either needs or materials could, at least in former times, change so rapidly and over such wide areas. That changes in building fashions may be independent of the materials available is shown by the researches which have been conducted by Sir Cyril Fox and myself into the old farmhouses of Monmouthshire. These indicate that before about 1550 houses were built almost exclusively of wood. Then a sudden change of fashion occurred, and they were henceforth built of the local stone. The practice of building in wood died out with great rapidity, though the supply of timber remained abundant. In Herefordshire the fashion of building in wood lasted about 150 years longer, even in districts

where building stone is abundant, but in both areas (and elsewhere) changes in minor features such as mouldings went on *pari passu*. Such facts are unaffected by Dr. Neaverson's researches. Early Norman castles were, of course, built mostly of wood, but when stone came into fashion the masons would use any stone which could be adapted to their technique. RAGLAN

Usk, Monmouthshire

**Polyandry in South India.** Cf. MAN, 1947, 129

**127** SIR,—In the summary of his lecture to the Institute, on 'Tibetan, Toda and Tiya Polyandry,' H.R.H. Prince Peter of Greece regretted, speaking of the Tiya of Malabar, that he was unable to study them more than superficially, because of the outbreak of war. This no doubt accounts for his observation that 'these people seem remarkable for the fact that they are simultaneously polyandrous and matrilineal.'

A closer study would have revealed the difference between the matrilineal Tiya of North Malabar who are not polyandrous, and the polyandrous Izhaber of parts of South Malabar who are not matrilineal. The co-existence of matriliney and polyandry precluded in the course of the lecture does not really prevail.

Colombo Museum

M. D. RAGHAVAN  
Ethnologist and Acting Director,  
National Museums, Ceylon

**The Harpoon on Egyptian Pottery.** Cf. MAN, 1948, 73

**128** SIR,—In her letter describing part of a white-cross-lined bowl from the collection of the late Professor Seligman now at the Institute of Archaeology (University of London), Dr. E. J. Baumgartel writes:—'The concentric circles in the middle of our bowl seem to represent an appliance by which the harpoons were fixed to the ground so that the hunted animal could not escape with the harpoon. We find a similar apparatus depicted on a white-cross-lined bowl found by Ayrton and Loat at Abydos (*Predynastic Cemetery at El Mahasna*. Pl. 27, 13) with two harpooned hippopotami each fixed by the cord of the harpoon to the outer of two concentric circles. It would be interesting to know whether any such device is known to be in use among modern primitive people.'

The hippopotamus is still frequently hunted with the harpoon by Nilotes on the White Nile; and an essential part of their harpooning equipment is a large float of the very light ambarch wood (*Hermimera elaphroxylon*); for when harpooned the hippopotamus inevitably submerges, and the hunters then only have the float to indicate its whereabouts. They therefore surround the float in their dug-out canoes and await the re-emergence of the hippopotamus, so as to transfix it with other harpoons.

On the other hand, the strength of a hippopotamus is such that no rope or anchoring device, such as Dr. Baumgartel suggests, made of materials available to primitive man, would stop the animal escaping. And if either the rope or the 'appliance' did not break, the harpoon would almost certainly tear out of its flesh.

I have little doubt that the objects to which the harpoons are attached in the designs on the pots in question are floats, although the representation on the Institute of Archaeology bowl is somewhat schematic. A simpler representation of the float on a white-cross-lined bowl from Jebel el, on which two hippopotami are shown, one apparently harpooned, is to be seen on Plate II, 1, of J. de Morgan's *Recherches sur les origines de l'Égypte*, Vol. I.

Department of Egyptology,

University College, London

A. J. ARKELL





(a) Knocking flakes off the edge of the spear point with the 'sharp' hammer stone



(b) Rubbing the edge



(c) 'Turning the edge' by pressing it off with the pointed stick. Notches are also made in this way. Note the paper-bark 'cushion'



(d) In position to exert pressure to remove the flake



(e) Position of the wrist and the movement of the stick as pressure is exerted



(f) Rebound of hand and stick after the flake moves, showing the force exerted

# PRESSURE FLAKING IN THE NORTHERN KIMBERLEY, AUSTRALIA

Photographs by A. P. Elkin

# THE THIRD INTERNATIONAL CONGRESS OF ANTHROPOLOGICAL AND ETHNOLOGICAL SCIENCES: BRUSSELS, AUGUST 1948

## A TRIBUTE TO OUR BELGIAN HOSTS

**129** The third meeting in the series first launched in London fourteen years ago was held at Brussels with the greatest possible success from 15 to 23 August. It was attended by as many as 450 members, and there would have been many more but for current restrictions on travel. There were particularly large contingents from Great Britain and Holland; all the countries of Western Europe (including Germany) and Scandinavia were well represented, as also was the United States, and there were two delegates each from Poland and from Hungary. There was a rich choice of notable papers to be heard in the various sections, and much important work was done by the Permanent Council and by the Committees of the Congress in renewing and improving the machinery of international co-operation in anthropology. The membership of the Permanent Council has been revised in consultation

with the several countries, and an invitation has been accepted (subject to review in 1950) to hold the next meeting of the Congress in Vienna in 1952, with Pater W. Schmidt as President and Professors Koppers and Weninger as Secretaries of the Organizing Committee.

The *Compte Rendu* will be published as expeditiously as possible and, if the Congress finances permit, may include full illustrated texts of some or all of the papers read. Publication rights are therefore reserved by the Congress; but fuller reports of its work are likely to appear in the pages of *MAN* in the next few months.

The gratitude of the British members may be best expressed in the terms of the letter which has been addressed on their behalf to the Belgian Organizing Committee by leading members of the British delegation:

Royal Anthropological Institute,  
21, Bedford Square,  
London, W.C.1  
1 September, 1948

Chers et honorés collègues,

Votre organisation de la troisième réunion du Congrès International des Sciences anthropologiques et ethnologiques en Belgique nous a donné à tous l'occasion de nouer de nouveau beaucoup de liens d'amitié et de coopération amicale entre anthropologues et ethnologues de plusieurs langues après la longue et pénible intervalle de la deuxième guerre mondiale. Nous voulons vous remercier du fond du cœur pour un accueil hors mesure dans sa bienveillance et son hospitalité charmante. Tout spécialement nous signalons les noms de l'illustre Président du Congrès, M. le professeur de Jonghe, de notre admirable Secrétaire général, M. le professeur Olbrechts, qui a travaillé avec un dévouement complet et qui a pu nous parler dans notre langue maternelle avec tant d'esprit et de facilité, et de M. Twisselmann, le Trésorier, dont la lourde charge a dû donner beaucoup d'anxiété et de travail. Le choix de la Belgique pour le siège du Congrès était des plus heureux car il nous a donné l'opportunité de mieux connaître votre beau pays, où l'homme et la nature ont réagi l'un sur l'autre pour donner au monde un exemple d'une civilisation à la fois rurale et urbaine pleine de beauté et de valeur pour l'humanité. En Belgique, qu'il s'agisse de monuments, de tableaux, de jardins, de cités, de cultures, les beaux arts sont chez eux, et ils s'expriment toujours en harmonie avec le milieu. Nous avons emporté tant de bons souvenirs que nous n'osons pas essayer de les nommer tous.

Le Congrès, si harmonieux dans ses discussions, a toujours respecté la liberté de conscience et d'expression des opinions diverses. Les visites des beaux Musées nous ont très fortement impressionnés. L'hospitalité publique dans vos cités et intime parmi tant d'amis ont ajouté à l'admiration que vos beaux efforts et votre dévouement ont évoquée.

Veuillez bien accepter ce petit hommage de reconnaissance de la part de vos collègues britanniques.

H. J. BRAUNHOLTZ  
H. J. FLEURE  
DARYLL FORDE



# PRESSURE FLAKING IN THE NORTHERN KIMBERLEY, AUSTRALIA\*

by

PROFESSOR A. P. ELKIN

*University of Sydney, N.S.W.*

**130** In his experiments in making stone arrowheads by percussion and pressure-flaking, Sir Francis H. S. Knowles found that an important step consisted of 'turning of the edge' of the stone being worked, so as to form a narrow platform for striking off the flakes.<sup>1</sup> This process is referred to by Dr. H. Basedow<sup>2</sup> in his description of the making of the lanceolate spearheads of the Northern Kimberley, Western Australia, objects which in their technique and finish are similar to the arrowheads of the early Britons. Basedow states that the stone flake is held in the left hand, the flat surface lying full length between the thumb and fingers, and that the edge is struck nearly at right angles to this surface by a sharp stone hammer held securely in the right hand. The chips break away into the left hand underneath. The blows are at first fairly strong and well directed, but later are quicker and lighter, being only taps. 'Occasionally the edges are rasped with a flat slab of sandstone at right angles to the plane of the flake—a process which breaks away small chips from either side of the edge which is being rubbed.' When the preliminary shaping has been completed in this way, the finer work is done by pressure flaking, and 'even at this stage, when the flake is assuming a symmetrical, lanceolate shape, its edge might occasionally be very carefully rubbed on the basal stone'—the stone against which the flake is held while the pressure is being exerted.

Dr. Basedow is correct in his reference to the rubbing or the rasping of the edge of the piece of stone which is being worked, but he does not state fully the reason for this process. It is not simply to rub away small chips; but is, as Sir Francis Knowles says, to form a narrow platform for striking and, as I would add, for pressing off the flakes.

I first saw the method of pressure flaking in process in 1928 at Walcott Inlet. More recently, in September 1946, I had the opportunity of observing carefully and photographing a spearpoint-maker at work at Forrest River Mission in the Northern Kimberley. His technique included 'turning the edge.' I brought away with me the spear point and the flakes removed in the process. After writing up my account, I asked two missionaries at Forrest River with an interest in anthropology, the Rev. S. H. J. Best and Miss K. M. Willington, to observe and describe the process for me, paying particular attention to points I desired to check. I thank them for their efficient help in this matter.

## *The Materials*

In the Kimberleys the kind of stone used is a quartzite, varying in colour from white to red; though Mr. Best says that the Drysdale River natives prefer a 'hard slaty grey

stone.' This is broken up with any available piece of hard hammer stone into crude cores of anything up to two or even three pounds in weight. These are carefully examined, the pieces deemed satisfactory being kept for further working. In the Victoria River region of the Northern Territory, flint is said to be used. To obtain it, a fire is made on the rock, after which water is thrown on the heated rock, causing flakes to come off.<sup>3</sup>

## *The Implements*

The heavy hammer is any suitable piece of stone lying near to hand. This applies also to the light hammer which is used for the final preparation of the stone for pressure flaking. The light hammers are not artificially shaped and differ considerably in size, several varying from six to fourteen ounces in weight. They need an angular or reasonably narrow hitting edge to enable the reduced core to be hit with sufficient precision.

The third implement required is a pressure-flaking stick, made of hardwood of from one to two feet in length, and from three-quarters to one inch in diameter at the working end, though it may be less at the other end. The working end is sharpened into a blunt point, like a pencil. This stick is used for the coarse flaking.

The next is the pressure-flaking bone, used for the fine and final work. It is a piece of pointed kangaroo bone, six or eight inches long. A piece of bullock bone will serve the purpose, the working end being kept as sharp as the point of a big nail, but it is not so popular, because it is softer. A piece of stout fencing wire is very satisfactory.

In addition, a table stone is required. This is any piece of stone about six inches cubed or more, reasonably flat. The top need not be horizontal or even; but the base needs to be firmly placed on the ground. Most essential, however, is a resilient layer or cushion of material (e.g. paper-bark) which is placed on the table stone. This protects the edge which is not being worked, and prevents shattering.

Finally a grindstone is provided, though the side of the table stone might be used instead. The edges of the developing spear point are rubbed on this, as will be explained; also, the implements, especially the pressure-flaking stick and bone (or wire), are rubbed on it to keep their points sharp.<sup>4</sup>

## *The Process*

(1) *Percussion.* In this description, work on a quartzite core is referred to. The craftsman holds one of the cores in his left hand, allowing it to lie along the palm and fingers and keeping it in place with his thumb. Then using the heavy hammer stone with his right hand he strikes any angular edge of the core, with sharp forceful blows from

\* With Plate J.

shoulder height, thus breaking pieces off on the under side of the angle. No sequence is followed in this preliminary process. The core is turned about at random and any edge struck and any undesired protuberance knocked off. Some of the outside pieces removed are quite large, in one case varying from a piece two ounces in weight, triangular in shape, two and a half inches long and over half an inch thick, down to a thin piece about a half by three-quarters of an inch in size.

Although the blows are heavy, the core does not rest against any firm base, but on the palm and fingers, and later on the fingers only of the left hand. This prevents shattering on the under part of the stone, which is not being struck; but it demands great strength in the fingers to endure the repeated jarring. The follow-through action of the hammer just misses the outer edge of the palm. To begin with, the four fingers are required to support the core, but later only three are needed, the index finger now helping the thumb to control the angle and position of the stone. And as it becomes still smaller, the little finger is held in a backward position out of the way, and the follow-through of the hammer just misses the tip of the third finger.

By this time the light hammer is being used, and the core is roughly of the required length, but is still too thick and too wide and has no sign of sharp edges. The shape is improved by rubbing the edge perpendicularly and lengthwise on the grindstone to prepare a striking platform, and then—the core being held as explained or else between the tips of the thumb and first two fingers of the left hand—by hitting this rubbed edge from a height of from twelve to eighteen inches with an edge of the small hammer stone. The latter is held between the thumb and first two fingers of the right hand. The blow is at an angle of a little less than ninety degrees to the rubbed edge of the spear stone and slightly to one side of the centre. A small flake is thus removed. This operation is repeated along this one edge and side according to its irregularities and thickness. This thins the edge, for the blow strikes off half or more of the thickness in the immediate vicinity of the place of percussion. Consequently, before striking the same edge, but on the other side, the workman rubs it hard on the grindstone, and then hits, normally, the projections left between the preceding series of percussion points. The other edge is dealt with in the same way, but there is no fixed order. The behaviour of the stone and the judgment of the particular craftsman are the deciding factors. He works fast, and before long the core approaches the desired spear-point size, and is too thin to be struck without danger of cracking in two.

From time to time the hammer is also rubbed on the grindstone to remove unevenness from both the holding and striking surfaces, and also as a professional habitual action. Needless to say the process requires much concentration, for the striking is in no sense haphazard: the points of percussion are selected with the general plan in mind; the rubbed edge must be hit truly as well as hard, or else the flake will not be removed, and also damage might be done to the thinning core.

Incidentally, the flakes are of many shapes, and would pass for points, gravers, scrapers and small blades. In earlier days—in 1928 in my own experience—these by-products of spearpoint-making were used for cutting flesh and so on.

(2) *Pressure flaking.* The craftsman sits cross-legged, or with one leg tucked in front of him, in front of the table stone with its bark 'cushion.' The preceding process of percussion on both sides of each edge leaves a wavy edge which is too narrow for the next step, pressure flaking. There must be a wide enough surface on which to exert the strong pressure necessary to remove the flakes which run back on the core a third, or even half, an inch. This surface needs to be from one-sixteenth to one-eighth of an inch wide, and at this stage of manufacture (as I have observed it) is obtained by pressing on the sharp edge with the blunted point of the pressure-flaking stick. The crunch can be heard as the point of the stick presses through the sharp edge at intervals of about one-eighth of an inch, leaving in the first instance a serrated edge.

For this operation the stone is held in the left hand, at about right angles to the ground, the part of the edge opposite to that being flaked resting firmly on the paper-bark covering the table. The stick is held in the right hand, being grasped by the thumb and all fingers, the thickness of the wood ensuring that it does not slip. The point is applied at an angle of about thirty degrees above the horizontal, the general direction of the point being towards the operator squatting 'behind' the table stone. The knuckle of the little finger, resting on the bark, serves as a fulcrum. Pressure is exerted from left to the right and downwards, away from the workman's body.

After every few breaks the edge is rubbed at right angles to a surface of the table acting as a grindstone. When the spear-point stone has been worked all round in this way, the serrations are broken off with the blunt point of the stick, so as to provide an even edge of the required width.

Thus has the edge been turned. Then, leaning slightly forward and holding the spear-point stone at an angle of about forty-five degrees to the bark and table stone, or up to sixty if the pressure is to be especially heavy, the craftsman applies the point of the stick almost horizontally to a selected point on the edge of the former, on the outside or far side from his body. The arm is bent so that the hand is opposite the middle line of the body, the palm being toward the body. The stick is at an angle of about thirty degrees to the broad surface of the spear stone, and pointing towards the hand holding the latter, that is, almost in line with the spear stone.

The weight, which comes from the trunk through the shoulder, is exerted through the wrist of the right arm pressing downwards and outwards on the platform or 'turned' edge of the spear stone. At the moment of pressure the stick is pivoted up, levering against the outer edge of the palm, and the hand is raised just clear of the table. Then as the flake is dislodged, the wrist turns over quickly, the whole arm flies up almost shoulder high, and the man's body jerks forward a few inches. The flake drops off from the under side, being thickest at the point of pressure, as

thick as the width of the 'turned' edge, and tapering to a sharp edge at the end, one-third, one-half and even three-quarters of an inch away, which is near the middle of the spear stone. There is also a distinct bulb on the under side just beneath the point of pressure—often one-eighth to one-quarter of an inch in width and length, and represents the removed 'tooth' and the new notch. The mark made by the application of pressure and by the previous rubbing on the grindstone is clearly visible on the end of each flake. The flakes are from one-eighth to one-quarter of an inch wide at the point of pressure; some continue at about this width throughout their length, though widening slightly, but many widen even up to a half-inch at the widest part. The shapes are irregular, owing to the texture of the quartzite.

The flake sometimes comes off whole, but frequently snaps in two; occasionally it breaks into several bits. Incidentally, the removal of each flake not only leaves a fine and curved edge, but also narrows the spear stone by the removal of the 'turned edge.' In addition, it leaves a slightly concave depression, and between each pair of depressions is a smooth ridge ending in a point. These ridges are removed in the next series of flakes after the edge has been turned, each such ridge running along the centre of the top of the removed flake. The under surface of the latter is convex.

Up to six applications of pressure are sometimes required to dislodge the flakes; but in spite of the slipping of the implement in the unsuccessful efforts, the spear stone is not broken.<sup>5</sup>

This process is repeated at each projection point along the edge, causing it to be serrated. The teeth are sharp, and protrude above the notches and also curve to the side of the stone opposite the teeth. Thus the edge waves in and out as well as up and down, and is sharp. It is then blunted by rubbing at right angles to the table stone, and if serrations appear, as is often the case, these may be broken off by pressure with the pointed stick, the pressure being exerted towards the opposite side, from right to left and downwards. This process is a very quick one.

On the other hand, the craftsman may regard the teeth, if blunt enough, as suitable pressure points, or indeed, may deliberately make teeth. In such case, as I saw, the workman removes flakes with a bone point to thin part of the edge which he rubs; and then with the wooden point breaks a little notch out of the edge about every eighth of an inch. He then presses flakes off in the usual way from the top side of the spear stone away from his body, pressing on the teeth which he has thus made.

Thus he in some cases makes serrations and presses on the projections to remove flakes, after which he breaks off the new projections resulting from this operation. At other times, he breaks off the projections which result from the pressure flaking, and rubs the edge before pressing more flakes off; this he does when the edge is too thin for working. This process is continued round and round the spear stone and on both sides until the grooves secured by the removal of the flakes meet in a line running lengthwise down the middle of the stone, or until the latter is regarded

as suitable for final trimming with the finer bone (in these days, strong wire) point. But working with the wooden flaker definitely thins the edge and in time the middle of the stone as well. There is no fixed routine. The craftsman, after glancing at the effect of his previous pressure, might turn the stone round and press from the opposite side so as to obtain the desired effect. Moreover, as already implied, the pressure bone may be employed at any stage in the process where fine flaking and trimming is required, and not only in the final stage. Sometimes the craftsman picks up the bone, but looking at the work again changes his mind, puts it down and uses the stick.

The use of the bone (or wire) point, which is much sharper and harder than the stick, for the removal of fine flakes, demands less pressure than the latter, sufficient being obtained from the forearm and wrist. Consequently, the hand holding the bone point remains on the table throughout the operation, the knuckle of the little finger serving as the pivot on which the hand is turned as the pressure is applied.<sup>6</sup>

As a result of the fine flaking on both sides of each edge, the finished article presents remarkably straight edges. Moreover, any waviness that might still be present is removed by the serrations deliberately made in breaking out notches about every one-eighth of an inch, and a little less in depth. While this is said to be for decorative purposes, it does remove any centre to side waves (curves) which may have resulted from the last series of flaking. They also make the spear point a very nasty weapon. The actual point is very sharp, the result of the flaking on the two sides.

The final product weighs from three-quarters of an ounce to two ounces.

### Conclusion

The whole process takes hours of constant and concentrated effort, with much skill and patience. It includes the preliminary knapping of the core, which is followed by the chipping or knocking-off of flakes to reduce the core to the approximate size and shape required, with a semblance of edges. The third stage consists of pressure flaking, mainly with the thicker and softer-pointed instrument, while in the fourth stage only a very sharp-pointed instrument is used.

But the process in both the second and third stages includes the preparation of the striking and pressure platforms respectively by 'turning the edge.' In the first case this consists of knocking the too narrow edge off, or of rubbing it firmly on the grindstone, or of both; in the second it is done by blunting the sharp edge by pressure with the softer-pointed instrument, and then by rubbing it on the grindstone, or sometimes only by rubbing.<sup>7</sup> In the Forrest River language this rubbing is termed *rudor* (ordinary rubbing is *widj*), and the turning of the edge by breaking off the projections is called *kirgit*.

Finally, an observer cannot help noticing the skill shown by the craftsman, his sureness of touch, his command of his instrument and of the material he is working, and the quickness with which he decides whether notches are

required or whether, if present, they should be knocked off. It is astounding to see what appears to be very heavy pressure being confidently applied to a narrow edge of a small piece of quartzite—perhaps an inch and a third in width and one-third of an inch thick in the middle—without fear of smashing the stone. The craftsman is aware that a bad stroke will ruin hours<sup>8</sup> of work, but he knows where and how hard to hit or press.

Professor S. D. Porteus,<sup>9</sup> in discussing this craftsmanship, wrote: 'Here we were viewing the first stumbling steps of primitive man along the road that led ultimately to the highest development of the sculptor's art.' I agree, provided the word 'stumbling' be omitted. Neither in 1946, nor in 1928, when I first watched pressure flaking in the Kimberlies, did I see any stumbling. On the contrary, I saw sureness and continuous awareness of the goal—the formation by percussion and pressure of a useful and beautiful object.

#### Notes

<sup>1</sup> 'The Manufacture of a Flint Arrow-Head by Quartzite Hammer-Stone,' *Occasional Papers on Technology*, ed. T. K. Penniman and B. Blackwood, Pitt Rivers Museum, Oxford, 1944, pp. 14-16.

<sup>2</sup> *The Australian Aboriginal*, 2nd ed., 1929, pp. 368-70.

<sup>3</sup> Glass is used, when bottles are obtainable from the white man.

<sup>4</sup> J. R. B. Love, *Stone Age Bushmen of Today*, London, 1936, plate facing p. 76, shows a stone hammer, a wooden tool, and two varieties of bone pressure tools, the finer points being used for the final serrations. The plate facing p. 72, shows the craftsman's grip of the wooden stick.

<sup>5</sup> Mr. Best and Miss Willington, however, inform me that the spear stone frequently fractures when nearing completion, and has to be discarded. The craftsman shows no impatience at this, but just looks for another likely-looking core.

<sup>6</sup> Referring to a region across the Kimberley border in Western

Australia where flint is used, my friend W. E. Harney tells me that for the removal of the very small flakes and for making the final serrated edge, the clenched little finger is used as a fulcrum for the sharp hard tool, which is pressed with an inward and upward movement: that is, the palm turns up and towards the craftsman's body. The flake falls down on the bark. Using the knuckle in this way prevents the pressure being too heavy or uneven. The action may almost be described as flicking.

A specimen I obtained at Wave Hill in this region in 1947, made of opaque white chalcedony, is characterized by very fine serrations.

<sup>7</sup> When the more easily flaked glass is used, the rough serrated edge caused by the pressure flaking is also rubbed on the stone until it powders away. Towards the end of the manufacture, this rubbing must be very gently done, lest the glass projections, instead of powdering away, snap and crack the glass. But rubbed and levelled it must be, so long as flaking is required, for the instrument, however sharp, must be applied to a platform, not to a sharp edge, which pressure would blunt and serrate instead of flaking.

I. Idriess in a popular travel book, *Over the Range*, Sydney, 1937, pp. 59-62, gives a useful description of the making of a spear point out of glass, and also (pp. 172-3) a briefer and less satisfactory description of the making of one out of stone. The latter took a long time.

H. Basedow, *The Australian Aboriginal*, pp. 367-70, gives a good description of the process, but does not emphasize sufficiently the importance of the rasping of the edges on the grindstone, pp. 368, 370. As he saw it at Port George IV, a short rod of bone pointed at one end was used instead of the stick for the first flaking.

<sup>8</sup> The admirable precision and detail of this account encourage the hope that Professor Elkin and his collaborators may be among the first technologists to supplement descriptions of primitive technical processes with accurate information as to the time taken for different operations, both absolutely and in relation to other techniques and pursuits of the same (and other) people, and for example, the effect upon the time taken of the use of different materials. These matters have been the subject of discussion, notably by Mr. Adrian Digby, in Section H of the British Association, meeting at Brighton in September.—Ed.

<sup>9</sup> *The Psychology of a Primitive People* (1931), p. 110.

## OBITUARY

### Bertram Johannes Otto Schrieke : 1890-1945

**131** Since the death of Dr. Bertram Schrieke in London,<sup>1</sup> where he was a Netherlands delegate to the first United Nations Conference on the morrow of the allied victory, rapid and baffling Indonesian developments such as he was eminently fitted to interpret have only emphasized the loss sustained by Holland in this scholar-statesman. Professor J. Clay has well described the statesman in a tribute to Schrieke's public service,<sup>2</sup> while Dr. Kunst devoted his penetrating study rather to the man of science, writing in *Cultureel Indië*,<sup>3</sup> a finely illustrated journal founded by Schrieke himself. As ethnographer, orientalist, colonial administrator, and especially as one tireless in applying academic knowledge to the daily conduct of affairs, Schrieke's achievements will, however, be long remembered outside the boundaries of his own country, and deserve record in the annals of the Royal Anthropological Institute. He was furthermore a staunch, if discriminating, friend of Britain, versed as always in the historical origins of policy, never misled by the short-term view.

Born at Zandvoort,<sup>4</sup> on the seaside near Haarlem, the son of a clergyman, Schrieke attended schools at Enschede and Kampen, a Zuiderzee harbour, also tutoring others from time to time. In his study of Oriental languages at Leyden (1909) he was put on his mettle by his first interview with Professor Snouck Hurgronje, the famous pilgrim to Mecca, who asked whether Schrieke had

read a certain book on Buddhism, in Danish. Schrieke did not know Danish and replied in the negative, but was curtly informed that, until he had done so, it was futile for them to continue the discussion. He read it in six weeks. This was an atmosphere in which Schrieke could thrive, in common with some distinguished contemporaries; and he there laid a firm foundation for his colonial work, taking a doctorate in 1916, *cum laude*. He proceeded at once to government service in Java.

The young 'Scientific Collaborator' in the Department of Native Affairs (1917-1920) came at once into personal contact with an outstanding Governor-General, Count van Limburg Stirum,<sup>5</sup> who broke with tradition in his 'democratic' habit of calling on subordinates, however junior, to present and amplify their own reports. By 1923 Schrieke had moved from the post of Adviser on Native and Arab Affairs to one still more congenial, becoming Director of the Museum of the Batavian Society of Arts and Sciences; and there followed a five-year academic interlude as Professor of Ethnology and Sociology in the Faculty of Law (Batavia). During this period he broadened his knowledge of Asiatic cultures and of Buddhism in Japan, which he visited as a representative of the Netherlands East Indies at the Third Pan-Pacific Science Congress in Tokyo. When the Fourth Congress met in Java in 1929, he organized a 'living ethnological demonstration,' by thirty-two folk groups, of the dances, music, arts and crafts of the Archipelago.

In 1929 Schrieke was appointed Director of the Department of Education and Religious Worship in the Netherlands Indies Government. Responsibility for the cultural evolution of some 60 million people constituted the most significant, yet by far the most difficult, phase of his career. The world economic crisis forced all governments to adopt a policy of retrenchment at that time. Instead of being free to branch out in new and promising directions, Schrieke was obliged to cut the departmental budget drastically, in accordance with the colonial cabinet's demands. He took pains to ensure that the foundations were untouched, so that a basis for later expansion remained; but his measures were bitterly resented and criticized in many quarters, European and native, where a long struggle for wider opportunities had been waged. In his brilliant summary of the characteristics of 'Native



FIG. 1. PORTRAIT OF B. J. O. SCHRIEKE AT ST. MICHIELSGESTEL  
January, 1944: from the painting by Karel van Veen

Society in the Transformation Period' (1929) Schrieke had indeed pointed out that education, especially secondary and higher education of a Western type, is desired by non-Europeans not only for economic but also for prestige reasons; this fact rendered a temporary set-back the more unwelcome at a time of political ferment. One of the budgets which he presented to the Parliamentary Assembly (Volksraad) was rejected by a majority vote and had to be validated by the overriding powers of the States General in Holland. Opposition and misrepresentation, which sometimes took petty and malicious forms, left their mark, although Schrieke was inwardly fortified by his belief that the emergency had enabled him to cut away some unsound growth. The problem of a native 'white-collar class' disproportionate to the opportunities for employment, especially at the living standards it had learned to require, was already unsettling

Indonesia; and while Schrieke was by conviction and temperament 'pro-native' in outlook, counting Javanese among his closest friends, he felt that the *malaise* of the unemployed nomadic intelligentsia of other parts of Asia warned against an unrestricted chase for university degrees. Schrieke nevertheless looked forward to a near future in which the sensitive and cultured Indonesians would be managing their own administrative affairs. When he asked the writer to entertain at Cambridge, in 1939, Raden Mr. Soewandi (whose name has appeared in post-war Indonesian cabinets), Schrieke mentioned his personal hope that Raden Soewandi would one day fill his own former post, at the head of the Department of Education in Batavia.

In 1933 the Board of Trustees of the Julius Rosenwald Fund invited Schrieke to visit America 'in order to make a study of Negro life and education, especially in the Southern states,' on the basis of his experience of educational problems and race relations in the Orient. Although he had never visited the United States nor met an American Negro, 'the Board regarded these handicaps as an advantage, as a guarantee of unbiased opinion' (*Alien Americans*, p. vii). The invitation provided a welcome opportunity to take a year's leave (1934-35), long deferred from a sense of the urgency of local problems. One of the economies which Schrieke had put into effect had been to retire civil servants in his department at the age of forty-five; he did not, therefore, wish to remain in the East Indian government service himself beyond that age. When the Directorship of the Finance Department was offered to him in 1935, he accordingly refused and elected to return to Holland.

*Alien Americans* (1936) is the only book which Schrieke completed, apart from his thesis on Bonang (a fifteenth-century Javanese Moslem), although he wrote many substantial articles and reports and has left sufficient material for several posthumous publications.<sup>6</sup> This study of race relations in the New World is in any case outstanding, and through the broad treatment of its theme attains a permanent value not easily 'dated' by subsequent research. Perhaps because the scene is laid far from his homeland, and also from the empire where his views were shaped in action and under a burden of responsibility, a proud and reserved nature found it possible to express here, more freely than elsewhere, certain basic convictions about society. Scorn of human inconsistency, indignation at human injustice are revealed with the force less of abstract logic than of passion, which indeed under a detached, sometimes forbidding exterior informed his activities in every field. Equally typical is, however, the recall to sober economic realities with which the book concludes.

Schrieke's approach has the merit of placing 'the Negro Problem' in perspective from the outset. Two chapters on the use of Chinese and Japanese labour in the Far West are followed by 'Mexicans and Indians' and 'America and the Alien' before 'the South and the Negro' are broached at all. As late as 1871 American Indian men, women and children in California were still being systematically exterminated (p. 7), and Chinese attracted by the gold rush caused rioting (p. 8). But a labour vacuum soon menaced this stage of intensive pioneer development and by 1865 80 per cent. of the hands in Californian woollen mills were Chinese. Chinese took the place of the absent 'white' women in kitchens, laundries, hotels and restaurants, and were indispensable in the construction of the three main railroads (p. 9). The Chinese were then reckoned 'among our most orderly and industrious citizens,' 'thrifty,' 'sober,' 'tractable,' 'inoffensive,' 'law-abiding'; they showed 'an all-round ability' and an 'adaptability' beyond praise.

In the cities, however, 'as years passed, as the immigration of whites continued and mining became less profitable, the manifold activities of the Chinese brought them into competition with

white labour in an increasingly large number of occupations (p. 10). . . . During the elections of 1867, as in many subsequent campaigns, the bitterness of colour prejudice was evoked to win the restless workingmen. The Chinese were now 'a distinct people,' 'unassimilable,' 'keeping to their own customs and laws.' They 'did not settle in America'; they 'carried back gold to their homes'; their mere presence 'lowered the plane of living.' They were 'clannish,' 'dangerous' because of their secret societies, 'criminal,' 'secretive in their actions,' 'debased and servile,' 'deceitful and vicious,' 'inferior from a mental and moral point of view, immeasurably lower than the Indians, for instance' (p. 11).

The deserved popularity of the Chinese cause in the American press during the recent period of Japanese aggression lends piquancy to these quotations; but they are more important as at least one clue to the solution of inter-group problems in many parts of the world, and among them conflicts between 'black' and 'white.' There are few better expositions of the subordinate role played by racial contrasts, even extreme, when economic and social conditions are favourable. From this insight springs Schrieke's appeal to 'a New South,' both 'white' and 'black,' to counter economic dependency and periodic decline, at the mercy of world price movements, by building up a sounder rural economy, attainable only through their co-operation. 'Intelligent planning and assiduous application of all available energy are needed. Will this be feasible? At present, Negro-white relationships are in a state of petrification. Will it be possible to break the spell of the plantation legend?' (p. 194).

Soon after Schrieke returned to Holland he was called to the 'Extraordinary' Professorship of Colonial Ethnology at the University of Amsterdam, and in 1938 he also took charge of the large Ethnological Department of the Colonial Institute (now the Royal Institute for the Indies), which involved organizing research, editing, 'propaganda,' and supervising collections of great renown. As with all museum work, *si momentum requiris, circumspice*: rich exhibits, tastefully arranged, stir the casual visitor and delight the student. Specimens and activities are recorded in departmental reports, in *Cultureel Indië* (bravely maintained throughout the war<sup>8</sup>), and in an excellent account of the Institute read before our own Institute by Johanna L. G. Felhoen Kraal, who has been on the staff of the Ethnological Department for twenty years (MAN, 1947, 41).

The Netherlands Government again enlisted Schrieke's services in various ways: as a delegate to the Nine-Power Conference in Brussels (1937); as Minister of Education, Arts and Sciences in Colijn's fifth cabinet of August, 1939 (in which the Prime Minister assembled 'specialists' without close party ties); and finally for the first vital post-war contacts at the United Nations Conference in London.

Less generally known are Schrieke's efforts to help towards a practical solution of the Jewish problem, made urgent by the overt persecutions in Germany during the autumn of 1938. A Jewish idealist, Henri van Leeuwen, had persuaded a wealthy Dutch Jew, the late Daniel Wolf, to promise a very large sum in support of colonization schemes outside Palestine, on the assumption that Palestine could never receive all who required asylum. A public appeal launched in Holland aroused notable response, and before Wolf's financial losses in the autumn of 1939 brought the enterprise to an end, he had contributed an approximately equal amount towards financing the International Refugee Colonization Society and its investigations into possibilities in Surinam<sup>9</sup> (Dutch Guiana), New Caledonia, Australia and Alaska. Schrieke's keen interest did much to secure high standards of research. The Surinam study was carried out by an authority on tropical hygiene, Professor Swellengrebel, assisted by an

agricultural expert, the late Dr. Vink, and by S. Dyk, who was experienced in methods of colonization; the results, recently published in full,<sup>10</sup> are relevant to any attempt by white colonists to survive, unaided by native labour, in the tropics. Schrieke was the sole Gentile among the Directors of the Society, and his collaboration was deeply appreciated by his Jewish compatriots. Henri van Leeuwen, after his release from Belsen, wrote a moving tribute to his late friend, who did 'much to save me when I came out of prison'; 'through his aid and thanks to God I was not sent to Auschwitz but to Belsen, a horrible camp but still in comparison with the other camps with a possibility to survive.' Schrieke had always been enthusiastic about the colonization work, 'gave so much of his time and of his goodwill and always in such a nice happy spirit.' He was 'also among the few men in the world who like the Jews *because* they are Jews,' and not in spite of the fact that they are Jews (28 Oct., 1945).

Schrieke's ethnographic and historical publications have won respect, but can only be adequately evaluated by specialists in the South-East Asiatic field, and when all his unpublished work is available. His contributions to general ethnological theory were deliberately limited. In a paper on 'The Evolution of Culture in the Pacific' (1926) he takes a determined stand against two main types of far-flung theoretical reconstructions which had been applied to his own area of intensive study. In the 'Kultur-historische' school, he finds Graebner presenting 'not a working hypothesis, but a theory, exalted to a dogma.' When criteria applicable to definite regions, in which historical contact is beyond doubt, were also applied within 'world-embracing theoretical cultural areas,' and one asked for the bases of proof, such a modest expression of doubt had been styled 'nonsense' (p. 2433). When Father Schmidt resolves difficulties of interpretation by referring to 'mixed regions,' Schrieke asks whether there would really 'be other than mixed regions in any part of the world?' (p. 2435).

Schrieke castigates equally the 'Manchester School,' as represented by Elliot Smith and Perry, and considers that Rivers's hypotheses of cultural borrowing also go much too far when it is stated 'that the influence of an imported culture depends on the impression which it produces on cultural inferiors, chiefly through the possession of cultural goods, and that consequently this influence would be proportional to the degree of superiority of the immigrant culture.' Schrieke comments that the education of primitive races would, in that case, be 'a simple task . . . for colonial powers! Experience proves the contrary. If Rivers were right, one would not need 'to spend so much labour and energy in trying to analyse the workings of the Hindu influences in Java' (p. 2440). Schrieke concludes with his own belief in the need of 'sociographies of well defined regions, i.e. not in the first place descriptions of peoples which are suggestive of a static condition, but treatises which present society in its dynamic growth; which show the relations in which institutions are rooted, the causes underlying changes, the historic currents which have left their mark. . . . To succeeding generations may then be left the framing of sweeping conclusions and all-embracing theories' (p. 2441).<sup>11</sup>

This emphasis on the importance of studying extant societies in flux recalls the impetus given by Malinowski to such work in Africa, and indeed the two found much in common when they were placed side by side at 'high table' on the last evening of the International Congress of Anthropological and Ethnological Sciences, held at Copenhagen in the tension of August, 1938. There was scope for many of Schrieke's interests in committees then set up, and Sir John Myres has written to Miss Felhoen Kraal (24 Sept., 1945) that there was no one whose judgment and knowledge he valued more during the Congress. At the time of Schrieke's death they were again in close touch, arranging the exploratory meeting which took shape at Oxford in April, 1946.



To those who had the privilege of visiting Dr. and Mrs. Schrieke in their beautiful home at Wassenaar, near The Hague, it was evident that an active and successful public and academic life had not exhausted the possibilities that lay within the versatile scholar: he was ever responding, with youthful vigour, to new stimuli. Yet an enigmatic melancholy lay deep within him, sometimes emerging as trenchant satire of others, sometimes as masochistic self-ridicule; this he himself traced to the anxieties and burdens which his mother had faced when her children were young, a memory which also led him never to wish for children of his own. The development, against this background, of a constructive personality and its triumph over such varied problems of adjustment must have owed much to the handsome woman, of high intelligence and principle, who became his wife. Mrs. Pauline Schrieke (*née* Loeff) went with her husband to the Indies at the beginning of his service, accompanied him on many journeys, and stood at his side in every crisis of peace and war. Dr. Schrieke delighted in telling of her cool presence of mind on 10 May, 1940, as they drove home across Southern Holland in the confusion of the first day of the German invasion, and of her caustic comments to the German police who came to take him to 'the distinguished hostages' camp' at St. Michielsgestel, during the half-hour he was granted to pack his bag. 'You will lose the war anyway' had been her final word to these omnipotent bullies.

Schrieke bore with dignity and fortitude the ten months' confinement in camp, corresponding almost daily with Miss Felhoen Kraal and other colleagues about Institute affairs; his challenging, half-sardonic but withal profoundly humane spirit was there caught undimmed by a fellow prisoner, the painter Karel van Veen (see fig. 1). With the same dignity he bore the much greater trial of knowing that his brother had accepted office with the government set up in Holland during the German occupation.<sup>12</sup>

Jaap Kunst, known for his studies of Indonesian music and a member of the Institute's staff, has described the unusual degree of devotion which Schrieke so often aroused in junior colleagues through his zeal in placing opportunities before them and in establishing the conditions in which they could give of their best. Many private acts of kindness, like his part in organizing academic resistance in Holland, will only gradually, if ever, become known.

Of his numerous friends abroad, Schrieke perhaps cherished most Sir Richard and Lady Winstedt, who were long in Singapore, knew Java, and shared his interests. The last days in London, where he found them once more, were precious. After a week he wrote to a colleague that 'everything here is so familiar that I feel the war period has shrunk,' and on a short visit to his Institute he reverted to England's blessed continuity: 'You don't know what it is like being in a free country again, one that has always been free.'

This memoir may close with another quotation from Sir John Myres (27 Sept., 1945): 'What a big man Schrieke was! and so modest and quiet, like all the best Dutchmen.'

E. J. LINDGREN

#### Notes

<sup>1</sup> On 12 September, 1945.

<sup>2</sup> *Mensch en Maatschappij*, Vol. XXI (1946), pp. 1-3.

<sup>3</sup> Vol. VII (1945), pp. 3-6. See also the 'In Memoriam' in *de Opdracht*, No. 17 (Oct., 1945), p. 3, by Dr. C. Nooteboom, and the notice in *Vrij Nederland*, Sept. 15, 1945, p. 247. M. van Blankenstein is preparing a longer biographical account for the yearbook of the Maatschappij der Nederlandsche Letterkunde at Leyden.

<sup>4</sup> On 18 September, 1890.

<sup>5</sup> Mr. (= Meester) Johannes Paul graaf van Limburg Stirum, Governor-General 1916-1920.

<sup>6</sup> On emerging from internment as a hostage, in the autumn of 1944, Schrieke resumed work on his comprehensive study of the Hindu-Javanese kingship and of the economic conditions during the thousand years in which that institution prevailed. The completion of *Vorst en rijk in Oud-Java*, as the author entitled it, has been undertaken by P. W. van Milaan, in consultation with various scholars. A symposium entitled *Ons Koninkrijk in Amerika: West Indië* [Our Kingdom in America: The West Indies], edited by Schrieke and Baroness M. J. van Heemstra, with the assistance of Dr. A. A. L. Rutgers, has been published by W. van Hoeve at The Hague (1947); and another symposium edited by Schrieke, *Report of the Scientific Work done in the Netherlands on behalf of the Dutch Overseas Territories during the Period between approximately 1918 and 1943*, has just appeared in English under the auspices of the *Werkgemeenschap van Wetenschappelijke Organisaties in Nederland* (Amsterdam: N. V. Noord-Hollandsche Uitg. M., 1948).

<sup>7</sup> *Buitengewoon*, a part-time appointment.

<sup>8</sup> The restricted war-time issues were quickly sold out, but some copies which Schrieke had set aside for himself were presented to the Library of the Royal Anthropological Institute on his arrival in London in August, 1945; and the set has since been completed.

<sup>9</sup> Over 26,000 fl. were spent on research in Surinam alone.

<sup>10</sup> See N. H. Swellengrebel (in collaboration with E. van der Kuyp), 'Health of White Settlers in Surinam,' *Mededeeling van het Koloniaal Instituut*, No. 54, 1940; and G. J. Vink, 'Over de mogelijkheid van kolonisatie van blanken in Suriname,' *Tijdschrift van het Koninklijk Nederlandsch Aardrijkskundig Genootschap*, Vol. LVIII (1941), pp. 675-92. The Surinam project is now being fostered by the Freeland League (New York), in which H. van Leeuwen is active.

<sup>11</sup> Across a report of proposals for laboratory experiments to elucidate conditions of co-operation between social groups, Dr. Schrieke wrote: 'Is it not a better method to try to analyse what happens or what has happened, than to try to find out what people think about an incompletely described situation in which they do not play an active or passive part, while they are not exposed to the influence of currents of opinion formed within or by the group?' (May, 1939).

<sup>12</sup> This painful topic must be mentioned because J. J. and B. J. O. Schrieke were simultaneously heads of departments in the Indies, and thus easily confused by those who did not know them personally. In consequence a misapprehension concerning Professor B. Schrieke's own attitude prevailed among some allied anthropologists during the war.

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## SHORTER NOTES

**South African Prehistory in the War Years: Part II\*.** By  
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### *Raised Beaches*

A recent paper by G. Mortelmans<sup>9</sup> gives an excellent idea of

\* For Part I see MAN, 1948, 118: Part III will follow in the next issue.

the complex of raised beaches which occurs about our coastline. Little has been done on this subject, save for an early geological paper by A. V. Krige in 1927, defining a major and a minor emergence. Mortelmans (a visiting Belgian geologist) describes a series of six deposits near the Keurbooms River mouth, the effects of a dozen episodes. Some may be local, but in the main they are to be recognized as applicable to the whole coastline. He associates his implements with the following deposits:

- A. Pre-Chellian tools (doubtful) found heavily rolled in a 15-20-foot beach, presumably resorted from the 400-foot beach or earlier—only two examples.
- B1. Chelles-Acheul A *in situ* mixed with pebbles from the degradation of the 400-foot beach, showing an analogous state of wear. Also found resorted in the 15-20-foot beach, and in lateritic plateau deposits.
- B2. Chelles-Acheul B found *in situ* in the 15-20-foot beach deposits, slightly worn. Few examples.
- B3. Chelles-Acheul C and D: two phases differentiated on grounds of physical condition before their laterization in the plateau and the corresponding old dunes. Phase C shows æolian wear; phase D shows tools slightly touched by æolian polish.
- B4. Chelles-Acheul E, highly evolved, suggesting even a lower Fauresmith, fresh and unaffected by ferricrete, lying on the 15-20-foot beach and on the surface of older formations.
- C. Middle Stone Age, found on the surface of dunes, mixed with older types. Another series was found scattered in the black sandy layer about the Stellenbosch dunes.
- D. Later Stone Age: a wide range of midden tools, on all surfaces.

The Abbé Breuil<sup>10</sup> commenced a survey of raised beach deposits which will presumably be continued within the near future. He concludes that of the various beaches recognizable along the coast, the 300-foot beach most probably represents the beginning of the human period, while the 200-foot level may represent a relatively late stage in the Chelles-Acheul series. For instance, at Cape Point, Middle Chelles-Acheul tools of two dates occur in consecutive consolidated dunes, at a height of between 200 and 300 feet above sea level. At a site south of Simonstown, Chelles-Acheul I and II implements occur at heights of 280 feet, while the superposed sands reveal Middle Chelles-Acheul III. Other sites at analogous heights occur at Westlake, Constantia and Kirstenbosch.

The resultant river gravels in the littoral region suggest similar evidence, and deposits on the Berg, Breede and Eerste rivers are touched upon. At Lynedoch, near the Eerste River mouth, a comprehensive series suggests that Chelles-Acheul III and IV (Middle) occur consistently above the 220-foot contour, together with types suggesting earlier phases, which Breuil regards as having been retrimmed from material collected by Middle Chelles-Acheul man from above the 300-foot level.

This paper is somewhat difficult to comprehend completely. As the Abbé is the first to realize, the work will have to be carried on slowly, carefully and on very broad lines by a number of competent workers. This admittedly preliminary survey should eventually supply the basis for some sort of inter-continental chronology. Workers in this field will have to take considerable note of the warnings of Dr. Zeuner, expressed at the Nairobi Congress, when he asked that greater care should be taken in giving the exact height of raised-beach deposits, and in defining which portion of the beach was being investigated. For instance, the storm portion lies well above the true beach level, but often contains larger boulders in its composition, which have a great survival power. This question arises in Breuil's discussion of the '45-foot beach' at Mossel Bay, which we happen to know is the same deposit as the 20-foot beach, into which the War Memorial foundations have been dug. Breuil regards this as Late Fauresmith or early Middle Stone Age. The tools so far recovered from the storm portion have been consistently of Middle Stone Age facies.

We may deal here with a good typological paper by Frans Malan,<sup>11</sup> in which he studies material of Middle and Late Chelles-Acheul date from deposits on his farm. He deduces from the typology that 'each new phase is an addition to as well as a growth out of what has gone before. Old types are not necessarily discarded

but new ones added with which to perform the new tasks consequent to the ever increasing complexity of human needs.' This fundamental unity of the whole Chelles-Acheul development in the Southern Mountain Region needs stressing, in view of a tendency to attribute particular finds to cultural phases. In fact, a very considerable number of examples are needed before any reasonable allocation can be made, and assessment of age or phase from isolated finds is often misleading, unless the most advanced and perfect tools happen to be involved. Conditions on the Vaal River do not express a similar fundamental unity there.

### River Gravels

In dealing with the Quaternary Period and the evaluation of climates (in Part I) we discussed certain river gravels and deposits. Here we shall confine ourselves to the centre of the Union.

The survey of the Vaal River basin, published by Messrs. Söhne, Visser and Lowe in 1937, falls outside our immediate scope, but the subsequent return of C. van Riet Lowe, with A. L. du Toit and the Abbé Breuil, has yielded additional information with which we can deal briefly. At the time of the 1937 publication it was thought that the Older Gravels were pre-human, and non-implementiferous. Since then a still earlier series, the Oldest Gravels, has been isolated, consisting of a poorly stratified deposit, full of pebbles and boulders of diabase, and in places strongly calcified. This seems to be local in origin. The Older series partly overlies these, and a break can be observed at several places. The earliest recognizable tools now known consist of a pebble culture, included within these Older Gravels, and therefore earlier than those previously recognized in the base of the red sand overlying the gravels.

Breuil<sup>12</sup> differentiates three levels in the Windsorton—Barkly-West series of Older ('Potato') Gravels. The lowest lies between 60 and 90 feet above river level, the second at about 150 feet, and the third at 200 feet. On the surface or redistributed into these gravels are Chelles-Acheul or later types, showing more wear on one face than on the other: these have been covered by the Kalahari sands. In addition Breuil notes examples of morphologically more elementary artifacts belonging to certain of these Older Gravels. They are mainly chipped pebbles, but a few flakes and pebble cores of simple type are also found, even in the 300-foot deposits north of Bloemhof. This early material becomes more abundant as the lowest of the series of Older Gravels is reached, and crude bifaces begin to appear.

Near Vereeniging patches of gravel occur on the 100-foot terrace, and worked quartzite tools with a few pebble implements are to be found. The tools differ from those at Windsorton and Barkly West, as they present a flake industry, so that comparison becomes difficult. The implements in all cases are prior to the full Chelles-Acheul development.

Breuil goes on to suggest a comparison with implements found in the 90-metre (300-foot) beach of Sierra da Sintra in Portugal, and with material found in Kenya, Uganda and the southern Congo.

The Klip River 50-foot terraces of the Vaal series<sup>13</sup> consist of quartzitic material, mixed with angular red sand, and precede du Toit's period of tectonic movement. Material from here belongs to Vaal Stellenbosch I phase. It was at first thought that this site reflected the beginning of the aggradation of the Younger Gravels, but the Abbé is now convinced that they belong to the last phase of aggradation of the Older series, to which they belong integrally.

Quartzite is exclusively used, and initial flakes have a broad, flat striking platform, usually at the side. While many handaxes are made from pebbles, even more are from wide-angled flakes. A certain development can be observed; while overlying the gravel may be seen Fauresmith and Middle Stone Age tools in the

same quartzite, in loose sandy layers. Breuil deduces that an archaic Chelles-Acheul (identical with that of the 300-foot beach at Casablanca) preceded major tectonic movements recognizable all down the continent. This suggests that a long geological period intervened between this 50-foot gravel and the Younger Gravels elsewhere on the Vaal.

Two papers by Macfarlane<sup>14, 15</sup> give new information from the Little Caledon River region. He deduces a crustal movement during Upper Pleistocene times, coincident with an Upper Levallois culture. The evidence lies in the indications of faulting on the Kornet Spruit. He regards these gravels as relatable to the Older Gravels of the Vaal, which are there regarded as of Early Pleistocene date. The inference is a somewhat bold one, and while the association of implements with the Kornet Spruit gravels may be accepted as valid, there seems no reason to regard a faulted deposit with an Upper Levallois culture as being contemporaneous with gravels containing pre-Abbevillean tools. The second paper gives a graphic account of the geological history of the Upper Orange in the Aliwal North District. Uplift along an axis, resultant faulting and the ponding back of the river, are all tentatively related to analogous earth movements in the Nanyukian period of Kenya.

### Cave Deposits

The excavation of caves has continued in various parts of the country, and Clark<sup>16</sup> followed up the earlier work of Macrae, Attilio Gatti and R. A. Dart by re-excavating a series of caves at Mumbwa. He finds the following sequence: a period during which the bedrock decomposed to form a black gritty earth, possibly including evidences of human occupation; an æolian red clay overlying this and suggesting an arid period when the caves were not inhabited; the first of the series of definite occupied layers, the Rhodesian Stillbay, with evidence of a seasonally wet and dry climate which yielded a red lower cave earth, and cemented parts of the deposit to form a 'hardened complex'; black upper cave earth with N. R. Wilton, in which moister conditions can be deduced; and finally a superficial Bantu 'Iron Age' deposit.

The careful re-excavation of the Bambata cave by Neville Jones<sup>17</sup> has produced interesting results. This cave was originally investigated by A. L. Armstrong for the British Association in 1929. The further excavation now shows that the original concept of a more or less separate Middle Stone Age and Later Stone Age, which held the field before Mr. Armstrong's publication in 1931, was justified. Briefly, Armstrong described alternating layers of 'Bambata Culture' (Middle Stone Age) and Neanthropic blades and techniques (Later Stone Age). Jones has now shown that there is no evidence of such alternation, but that Armstrong's intercalation of two recognizable layers of cave earth was due to the presence of a central heap at one time. In the course of subsequent occupation this has been broken down and has spread into surrounding layers, to produce a localized effect of alternating strata.

At Kuruman, in southern Bechuanaland, two papers by Malan, Cooke and Wells<sup>18, 19</sup> break entirely new ground. The cave is situated in dolomitic limestone at the base of a 400-foot conical hill. It runs for 300 feet into the hillside, then twists westward for a further 75 feet. The floor is of occupational midden and guano, and as so often in South Africa, the rear of the cave has been dug out by guano-diggers. Paintings occur for some sixty feet from the cave mouth. The deposits encountered show three main periods: good Fauresmith types overlying bedrock, followed by a bad Middle Stone Age deposit, and then by Smithfield A material. The fauna described by Cooke and by Wells in the two papers comes mainly from the superficial Smithfield A deposit. Frag-

mentary evidence occurs in lower layers which show a few fragmentary molars from large bovidæ at two levels. The later deposit includes reptiles, birds, horse, pig, eland, hartebeest and several small bovidæ, baboon, hyena, porcupine, rhinoceros, etc., all modern or recent fauna. The main value of this paper will eventually lie in the new distribution of the Fauresmith and the Smithfield A series, each of which may merit re-description, in view of differences of material and the distance from other known assemblages, which may be taken as about a hundred and twenty miles.

Since the war a return has been made to Peers' Skildergat cave, near Fish Hoek, by a young student, K. Jolly.<sup>20</sup> He has so far been able to confirm the stratification which had long been suspected from the meagre field notes of the Peers, father and son, who originally excavated the cave. The cave had achieved fame as the home of the Fish Hoek Man, who was very fully dealt with by Sir Arthur Keith in his book *Fresh Light on the Antiquity of Man*. It was then thought that the stratification revealed a heavy Stillbay layer, in the middle of which intruded a layer of Howieson's Poort culture, thus dividing the deposit into an Earlier and a Later Stillbay. The field notes did not yield this picture after careful re-examination, and the slight amount of excavation so far carried out here has shown the following stratification: underlying rubble of quartzitic sandstone, angular, and of uncertain origin; over this, the Stillbay layer, on which lies the Howieson's Poort deposit; then midden which at surface shows a pure Wilton, though containing modern gunflints which may have been trodden into the superficial Wilton layer at a later date.

Two minor excavations, undertaken by the writer, and as yet unpublished, show that in the hill overlooking Kalk Bay harbour, near Cape Town, Howieson's Poort tools underlie midden, generally without formal tools. What is most striking is the analysis of the black earth belonging to the Howieson's Poort and pre-midden layers. In contrast to the summer rainfall area, a period of good rainfall with abundant vegetation is indicated at the junction of Middle and Later Stone Ages in the Cape winter-rainfall area. Just as at the Mossel Bay cave, the analysis proves that the inhabitants did not eat shellfish at that period, and the content of calcium in the black earth deposit is remarkably low, again suggesting high winter rainfall.

The discovery by H. S. Jager of Smithfield C tools on an open site a few hundred yards from the Skildergat cave is not reflected in that deposit. The find does, however, show that the distribution of this late phase of the Smithfield complex is greater than we supposed, or else that we are dealing with a parallel evolution in surface quartzite which has remarkable similarities to its lydianite prototype. This discovery has not been published, and the site is of typological rather than of stratigraphical value. The presence in the wind-blown sand of fragments of unidentifiable bone suggests that the congeries is late.

Lowe's paper<sup>21</sup> from the Makapan caves in the Transvaal is essentially preparatory to more extensive excavation at these sites. He regards the first inhabitants as having an Earlier Stone Age culture, Chelles-Acheul with primitive 'Clacto-Levalloisian' tools. This is followed by possible Middle Stone Age material with spherical throwing stones, and a few associated flakes that may prove to be debitage from Early Stone Age tools. Lowe stresses the need for differentiating between associations yielded by open sites and cave deposits such as these. One cave (the Rainbow Cave) does certainly contain Middle Stone Age tools ascribed to the Pietersburg culture. The evidence so far suggests that these caves were not inhabited simultaneously, but that together they cover a vast span of man's story, from earliest times to the dawn of the Later Stone Age, when the filled-in caves were becoming sealed by limestone deposition. These caves present a

somewhat difficult task to the excavator, as they consist of masses of breccia, the lower portions of which have in some instances fallen away to create new caves beneath the overlying bulk of the inhabited deposits. They should, with careful treatment, provide us with a very clear picture of early man in the Transvaal.

In the region of Natal some work has been undertaken during the war at the Ingwavuma cave.<sup>22</sup> Following an earlier test dig in 1934, excavation was continued in 1941 and 1942. A rich Middle Stone Age industry (ascribed to the Pietersburg culture) presented a continuous development, in which the more advanced phases include small triangular points, finely trimmed over both faces.

Surface material collected by J. A. Swan is described by B. D. Malan<sup>23</sup> from Izotsha, Umkomaas and Newcastle and from the Tugela mouth. These tools show that Middle Stone Age industries, containing lanceolate bifaced points, have a wide distribution in Natal. Many show very advanced workmanship, but both the debitage and technique show that there are differences between this Natal series and the Stillbay series from the Cape.

*Notes (numbered in continuation of those to Part I)*

<sup>9</sup> G. Mortelmann, 'Plages souslevées à Industries lithiques de la Région de Keurbooms River, dist. de Knysna, Prov. du Cap,' *S.A.J.S.*, Vol. XLI (1944), pp. 375-96 (with illustrations including sections).

<sup>10</sup> H. P. Breuil, 'The Old Palaeolithic in Relation to Quaternary Sea Levels along the Southern Coast of Africa,' *S.A.J.S.*, Vol. XLI (1944), pp. 287-8.

<sup>11</sup> F. Malan, 'The Stellenbosch Industry in the Wagenmakers Valler, Wellington,' *T.R.S.S.Af.*, Vol. XXVII (1939), pp. 241-86 (illustrated).

<sup>12</sup> H. P. Breuil, 'Archaic Chipped Pebble and Flake Industries from the Older Gravels of Various Sections of the Vaal Valley,' *S.A.J.S.*, Vol. XL (1943), 282-4.

<sup>13</sup> H. P. Breuil, 'An Industry with Clacto-Abbevillean Facies from the 50-Foot Terrace of the Vaal at Vereeniging,' *S.A.J.S.*, Vol. XL (1943), pp. 287-8 (with bibliography).

<sup>14</sup> D. R. Macfarlane, 'On some Remarkable Gravel Deposits on the Kornet Spruit, Basutoland,' *S.A.J.S.*, Vol. XXXIX (1942), pp. 282-96.

<sup>15</sup> D. R. Macfarlane, 'The Orange River High Level Gravels at Aliwal North in Relation to Crustal Movements and the Stone Age,' *S.A.J.S.*, Vol. XLI (1944), pp. 415-28 (with illustrations and map).

<sup>16</sup> J. D. Clark, 'Further Excavations (1939) at the Mumbwa Caves, Northern Rhodesia,' *T.R.S.S.Af.*, Vol. XXIX (1942), pp. 133-202 (illustrated).

<sup>17</sup> Neville Jones, 'Bambata Cave: A Reorientation,' *Occ. Pap. Rhod. Mus.*, Vol. IX (1939), pp. 11-28 (illustrated).

<sup>18</sup> B. D. Malan and H. B. S. Cooke, 'A Preliminary Account of the Wonderwerk Cave, Kuruman District,' *S.A.J.S.*, Vol. XXXVII, (1940), pp. 300-12 (illustrated).

<sup>19</sup> B. D. Malan and L. H. Wells, 'A Further Report on the Wonderwerk Cave, Kuruman District,' *S.A.J.S.*, Vol. XLI (1944), pp. 258-70 (illustrated).

<sup>20</sup> K. Jolly, 'Preliminary Report on New Excavations at Skildergat, Fish Hoek,' *S. Af. Arch. Bull.*, Vol. II (1947).

<sup>21</sup> C. van Riet Lowe, 'Further Notes on the Makapan Caves,' *S.A.J.S.*, Vol. XL (1943), pp. 289-95.

<sup>22</sup> H. B. S. Cooke, B. D. Malan, and L. H. Wells, 'Fossil Man in the Lebombo Mountains, South Africa: The Border Cave, Ingwavuma District, Zululand,' *MAN*, 1945, 3 (illustrated).

<sup>23</sup> B. D. Malan, 'Bifaced Middle Stone Age Points from Natal,' *S.A.J.S.*, Vol. XLI (1944), pp. 400-10 (illustrated).

## Recent Researches on Ancient Copper-Mining in Austria.

By Professor Richard Pittioni, University of Vienna. A communication to the Ancient Mining and Metallurgy Committee of the Royal Anthropological Institute. Translated by Professor V. G. Childe

Austria is the only country in Europe within whose boundaries the most significant remains of prehistoric mining for copper are to be found. All reports from other parts of our hemisphere<sup>1</sup> show that neither in Spain<sup>2</sup> nor in Italy,<sup>3</sup> neither in the Aegean area<sup>4</sup> nor elsewhere<sup>5</sup> in Europe are such extensive ancient workings discoverable in the metalliferous areas. The Austrian ores of the so-called *Grauwack* zone were systematically exploited from the beginning of the Bronze Age<sup>6</sup> and, on the testimony of varied observations, have contributed substantially to Europe's wealth in copper.<sup>7</sup> Despite the attempts of W. Witter<sup>8</sup> to raise the ore deposits of Central Germany to the first rank in the final Neolithic and Early Bronze Age metal industry, the significance of the Alpine deposits remains unquestioned.

Our knowledge thereof is due in the first place to the efforts of the Nestor of Austrian prehistory, Matthäus Much,<sup>9</sup> who had already published the first fundamental works about them between 1870 and 1880. He was followed by Georg Kyrle,<sup>10</sup> Oliver Klose<sup>11</sup> and Martin Hell.<sup>12</sup> Like Much, they studied copper-mining in the main from a purely archaeological aspect. With the exception of Kyrle<sup>13</sup> they were not so much concerned to elucidate the questions of mining technique as such, as to establish the chronology of the exploitation. Paul Reinecke,<sup>14</sup> of Munich, too, was particularly interested in this aspect, although he was one of the first to emphasize the importance of the Austrian copper industry for the economic history of antiquity. So till about 1930 it was primarily the significance of Austrian copper-mining for cultural history that was studied; for through lack of adequate expert collaboration there was no opportunity to explore the purely technical problems connected with this complex inquiry. Much and Kyrle did indeed take advantage of the collaboration of two mining engineers named Pirchl, but still these earlier works on Austrian mining lack the requisite foundation of expert knowledge of mining technique. This was first provided in 1930, when systematic investigations on the mines of the ancients were conducted by the two experts, Karl Zschocke and Ernst Preuschen, in the most famous of the ancient mining districts of the Alps, the high ridge of Bischofshofen, Salzburg, known in archaeological literature as the 'Mitterberg.'<sup>15</sup>

To them alone is due the transformation of mine-investigation from its former one-sided direction towards a comprehensive scientific province. Their publication of the ancient mines on the Mitterberg,<sup>16</sup> which appeared in 1932 and is still too little known in archaeological circles, laid the foundation for a systematic study of ancient mining. Owing to the very nature of the sources, the fieldwork of prehistorians<sup>17</sup> still formed a starting point, but it was now conducted in intimate collaboration with technical experience. The collaboration of these two disciplines is the indispensable precondition for comparable investigations in other mining regions in Europe and the rest of the Old World, since real advances in knowledge can only be achieved as the result of correct interpretation of the evidence in the field.

At the same time Preuschen and I have invoked the aid of geology and soil science so as to be able to grasp the origin of the varied phenomena in the terrain that could not be explained either by archaeology or mining.

The systematic investigation of the Austrian copper-mining industry makes it necessary to invoke the aid of petrology (for the determination of stone implements), zoology (for interpreting the evidence of the animal remains found in mine areas), botany (for the diagnosis of the timbers suitable for the production of tools) and pollen-analysis (for the elucidation of problems of climatic change). To these ancillary sciences is due a comprehensive clarification of the conditions of life in the Alpine mining district. Thus it appeared that the late phase of the post-glacial warm period was a climatic epoch particularly suitable for mining industries

conducted continuously throughout the whole year and favoured the growth of all the timbers needed for mining operations—spruce, fir, beech, sycamore, alder, hazel, mountain ash. Accurate observations provided the first traces of cattle dung and accordingly of the composition of the pastures at an elevation of 1,800 metres. By the aid of osteological determinations, the pasturing of cattle, sheep, goats and pigs on the high meadows in the mining region was established. Cattle bones, taken in conjunction with remains of milk on potsherds, attest the existence of a simple Alpine economy<sup>18</sup> for which it would be hard to find other evidence. Provisional estimates of the total output of the Bronze Age miners in the Salzburg and Tyrolean mining regions yield striking results. Estimates by our engineering collaborators suggest a production of 20,000 tons raw copper for the Mitterberg field alone, accepting the provisionally established period of exploitation as about 1,000 years—from the beginning of the Bronze Age to the end of the Urnfield phase. Allowing an equal period of exploitation for the veins lying east of the Salzach, for the lodes of the Ennöbberg, adjacent to the high ridge, and for all the lodes in the district round Kitzbühel (particularly the Kelchalp), the total yield of the eastern Alps would be probably five times as great—in other words about 100,000 tons of raw copper. Spread over 1,000 years the total annual production in the Alps might be reckoned at 100 tons, say five wagon loads.

This estimate, based upon the workings observed (and in part also inferred) in the area of exploitation, presupposes a systematic mining activity in the whole east Alpine region. In the same direction points the observation that a uniform series of wooden implements was employed throughout the zone. For this likewise presupposes the unitary direction of the whole industrial activity in accordance with predetermined plans for exploitation. Accordingly, exploitation individually in unrestrained competition is simply unthinkable; the existence of a regular order of miners is probable. Their connexion with the rest of the population is established by the observed use of copper slag for the tempering of potter's clay in the neighbouring settlements—St. John in Pongau<sup>19</sup>, Golling,<sup>20</sup> St. George, near Bruck in Pinzgau,<sup>21</sup> Götschenberg, near Bischofshofen,<sup>22</sup> Mittersill,<sup>23</sup> Krimml.<sup>24</sup> The use of slag in these settlements, some of which are far removed from the immediate mining centres, would otherwise be inexplicable. Little information is available on the position of the settlements among actual mines of the Mitterberg and the Kelchalp. Still, evidence exists for the erection of mine huts to store mining tools, of actual dwelling houses for the workers and of small structures at the site of the open workings.

Development and extraction in the mines was carried out by the use of the fire-setting method and by detaching the loosened material with the aid of hammers of stone or bronze and bronze gads. The ore was transported with the aid of wooden troughs and sacks of hide. The rough concentration of the ore was conducted by pounders and grinders, while the finer sorting was carried even to the point of using a sedimentation process. The concentration was carried out in the neighbourhood of the shafts, but the smelting furnaces were erected lower down in the wooded country. Up to date some 180 smelting sites are known in the Salzburg-Tyrol revier, but only a small number of these have been exposed. The ruins are not sufficient to allow of a reconstruction of the furnaces, but various kinds of structure must be assumed. Four distinct varieties of slag indicate repeated smeltings. Studies of the chemistry of these processes are not yet completed. Raw copper was put in circulation in the form of cake-shaped ingots, but Early Bronze Age ingots are flat, while those of the Urnfield period are mostly cap-shaped.

Little is known about the miners' clothes. Leather jerkins can be inferred from the front of one which has been preserved.

Salt mines<sup>25</sup> give evidence for the use of leather gloves and caps, and the use of the same by the copper-miners may be assumed. Whether trousers or a coat coming down to the knee were worn cannot be decided. The planned character of the several processes (in the shaft, in sorting the ore and in smelting) implies a fundamental division of labour which also ensured the highest possible productivity. A corollary would be division of the mining class into its natural crafts and at the same time the probability of extensive technical and chemical knowledge.

This sketch of the industrial activity in the Austrian Alps during the Bronze Age, although a mere outline, provides adequate bases for the assumption that the industry had significance for the whole of Central Europe. With the assistance of spectroscopic analysis and the systematic examination of the ores from the Mitterberg and the Kelchalp for their distinctive impurities, the methodical basis was laid ten years ago for tracing the distribution of Alpine copper during the Bronze and Hallstatt ages. An important contribution will be made by the examinations now in progress of the bronzes from the Hallstatt cemetery, since proof of the existence of copper-mining in the eastern Alps during the Early Iron Age can be obtained in this indirect manner. At the same time a study of prehistoric mining in Austria will be substantially advanced by continued fieldwork, although restricted by the limited resources available. The extension of this means of exploration to the remaining copper-production areas of Europe would be eminently desirable, since they too promise rich material. The aims of the metallurgical group of the Royal Anthropological Institute coincide in essence with these of the Austrian organization for investigating copper ore which has been in existence since 1937. Close collaboration between these two institutions would therefore be welcomed.

#### Notes

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<sup>2</sup> *Id.*, 'Vorgeschichtliche Studien in Bergwerken Südspaniens,' *Zeits. f. d. Berg-, Hutten- und Salinenwesen usw.*, 1935, pp. 492ff. et seq.

<sup>3</sup> A. Minto, 'Le ricerche archeologico-minerarie in Val Fucina,' *Studi Etruschi*, Vol. XIV (1940), pp. 315ff.

<sup>4</sup> O. Davies, 'Bronze Age Mining round the Aegean,' *Nature*, 130 (1932), pp. 985ff.; *id.*, 'The Copper Mines of Cyprus,' *Annual of the British School at Athens*, Vol. XXX (1928-30), pp. 74ff.

<sup>5</sup> O. Davies, 'Prehistoric Copper Mines near Burgas,' *MAN*, 1936, 119.

<sup>6</sup> M. Hell, 'Die Götschenberg bei Bischofshofen in Salzburg und seine Beziehungen zum Beginn des alpinen Kupferbergbaues,' *Wiener Prähist. Zeits.*, Vol. XIV (1927), pp. 107ff.

<sup>7</sup> P. Reinecke, 'Die Bedeutung der Kupferbergwerke der Ostalpen für die Bronzezeit Mitteleuropas,' *Schumacher-Festschrift*, Mainz, 1930, pp. 107ff.

<sup>8</sup> W. Witter, 'Die älteste Erzgewinnung im nordisch-germanische Lebenskreis,' 2 vols., *Mannus-Bücherei* Nos. 60, 63, Leipzig, 1938; *id.*, 'Die mitteldeutschen Bodenschätze und ihre Bedeutung für die Kulturentwicklung am Ende der Steinzeit in Mitteleutschland,' *Jahrb. des Hattleschen Verbandes für die Erforschung der mitteldeutschen Bodenschätze und ihre Verwertung*, Vol. XV (1936), pp. 141ff.; *id.*, 'Die technische Verwendung von Kupfer-Arsenlegierungen im Altertum,' *Metall und Erz*, 1936, pp. 118ff.; *id.*, 'Die Ausbeutung der mitteldeutschen Erzlagertstätten in der frühen Metallzeit Europas,' *Wiener Prähist. Zeits.*, Vol. XXVI (1939), pp. 58ff.; *id.*, 'Metallurgische Bemerkungen zur Vorgeschichtsforschung,' *Berichte der Römisch-Germanischen Kommission*, Vol. XXIX (1940), pp. 157ff.; *id.*, 'Die Metallzeit in Mittel- und Nordeuropa,' *Metall und Erz*, 1941, pp. 189ff.; F. K. Bicker, 'Mitteleutschland als ein selbständiges Ursprungsland der Kupfer- und Bronze-industrie,' *Mitteleutsche Volkheit*, Vol. V (1938), pp. 70ff.; *id.*, 'Neue Ergebnisse der Metallforschung in Deutschland und ihre Beziehungen zu



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<sup>9</sup> M. Much, 'Das vorgeschichtliche Kupferbergwerk auf dem Mitterberge (Salzburg),' *Mitteil. der Zentralkomm.*, New Series, Vol. IV (1878), pp. cxlvi ff. and Vol. V (1879), pp. xviii ff.

<sup>10</sup> G. Kyrle, 'Der prähistorische Bergbaubetrieb in den Salzburger Alpen,' *Österreich. Kunsttopographie*, Vol. XVII (1918), Part I.

<sup>11</sup> O. Klose, 'Die zeitliche Stellung des prähistorischen Kupferbergbaues in den Ostalpen,' *Mitteil. der Anthropol. Ges.*, Vol. LXI (1931), pp. 137ff.

<sup>12</sup> M. Hell, 'Zwei Tonmodel für Schaftlochhäxte aus Kupfer vom Rainberg in Salzburg und der Beginn der alpinen Kupfergewinnung,' *Wiener Prähist. Zeits.*, Vol. XXX (1943), pp. 55-66.

<sup>13</sup> See Note 10.

<sup>14</sup> P. Reinecke, 'Zur Geschichte des prähistorischen Kupferbergbaues im Bischofschofen,' *Mitteil. der Anthropol. Ges.*, Vol. LXIII (1933), pp. 223ff.; G. Kyrle, 'Die Höttinger Kultur in ihren Beziehungen zu den endbronzezeitlichen Kupferbergwerken der nördlichen Ostalpen,' *Wiener Prähist. Zeits.*, Vol. XIX (1932), pp. 7ff.

<sup>15</sup> K. Zschocke and E. Preuschen, 'Das urzeitliche Bergbaugebiet von Mühlbach-Bischofschofen,' *Materialien zur Urgeschichte Österreichs*, Part 6, Vienna, 1932; Zschocke, Preuschen and Pittioni,

'Grundsätzliche Feststellungen zu Fragen des urzeitlichen Kupferbergbaues,' *Mitteil. der Anthropol. Ges.*, Vol. LXIV (1934), pp. 327ff.

<sup>16</sup> R. Pittioni, 'Die Organisation der österreichischen Bergbauforschung,' *Forschungen und Fortschritte*, Vol. XII (1936), p. 92.

<sup>17</sup> Preuschen and Pittioni, 'Untersuchungen im Bergbaugebiet Kelchalpe bei Kitzbühel, Tirol: Erster Bericht über die Arbeiten 1931-36 zur Urgeschichte des Kupferbergwesens in Tirol,' *Mitteil. der Prähist. Komm.*, Vol. III (1937), pp. 1ff.; Pittioni, 'Zweiter Bericht über die Arbeiten 1937-38 zur Urgeschichte des Kupferbergwesens in Tirol,' *ibid.*, Vol. V (1947), pp. 37ff.

<sup>18</sup> Pittioni, 'Urzeitliche Almwirtschaft,' *Mitteil. der Geogr. Ges.*, Vol. LXXIV (1931), pp. 108ff. and Vol. LXXXI (1938), pp. 196ff.

<sup>19</sup> M. Hell, 'Eine bronzezeitliche Höhensiedlung bei St. Johann i. P. und ihre Beziehungen zum alpinen Kupferbergbau,' *Mitteil. der Anthropol. Ges.*, Vol. LI (1921), pp. 194ff.

<sup>20</sup> *Id.*, 'Zur vorgeschichtlichen Besiedlung des Landes Salzburg,' *Mitteil. der Ges. für Salzburger Landeskunde*, Vol. LXIV (1924), pp. 45ff.

<sup>21</sup> *Id.*, 'Die vorgeschichtliche Höhensiedlung am Burgstall bei St. Georgen im Pinzgau,' *Mitteil. der Anthropol. Ges.*, Vol. LII (1922), pp. 262ff.

<sup>22</sup> *Id.*, 'Der Götschenberg bei Bischofschofen in Salzburg und seine Beziehungen zum Beginn des alpinen Kupferbergbaues,' *Wiener Prähist. Zeits.*, Vol. XIV (1927), pp. 196ff.

<sup>23</sup> *Id.*, 'Aus der Urgeschichte des Landes Salzburg,' in M. Hoffer and L. Lämmernayr, *Salzburg, Junks Natur-Führer*, Berlin, 1925, pp. 13ff.

<sup>24</sup> Unpublished information from M. Hell.

<sup>25</sup> See Note 10 (p. 59, figs. 62, 65).

## REVIEWS

### AFRICA

**The Influence of Islam on a Sudanese Religion.** By Joseph Greenberg. *Monographs of the American Ethnological Society: New York (Augustin)*, 1946. Pp. ix, 73, map

**134** The author spent eleven months among the Hausa of Kano in Northern Nigeria with its surrounding districts, partly among the Muslim Hausa, partly among the pagan Hausa and partly among a mixed Muslim and pagan population. He first discusses the historical contacts of the Hausa with Islamic culture in its Maghribi form; he then gives a short account of the social organization of the pagan Hausa and, in this setting, a fuller description of their religious beliefs and cults; and this is followed by a discussion of the part played by the Malams (religious teachers) and the pagan *iskoki* cult among the Muslim Hausa. The author's research was chiefly directed to discovering the influence of Islam and the pagan cults on one another. He shows how certain beliefs and practices of Islam have entered the pagan religious system and how certain pagan beliefs and practices have, through identification with Muslim beliefs and practices, been preserved in Hausa Islam. He finds that the Islamization of the Hausa took place less through actual contact with Muslim folk than through the class of learned Malams, who constituted 'the acculturating element, passing on what they found in the literary sources at their disposal to the population at large.' He also found 'that new cultural features, not present in either of the contributing cultures, appear under conditions of intensive contact.' This is Malinowski's 'tertium quid' and Linton's 'a chemical rather than a mechanical mixture.'

This book is a useful contribution to comparative religion and has particular value for a study of the mechanisms by which Islam spreads among the pagan peoples of Africa. I heartily endorse the author's plea for a series of such studies on the frontier between Islamic and pagan Africa. Similar studies might well be made of the spread of Christianity in Africa. The author is to be congratulated on his research and on the scholarly essay in which he has presented it.

E. E. EVANS-PRITCHARD

**The Nuba : An Anthropological Study of the Hill Tribes of Kordofan.** By S. F. Nadel. O.U.P., 1947. Pp. xiv, 520. Price 42s.

**135** Bit by bit the ethnography of Africa is being filled in, and Dr. Nadel's book opens up a whole tract of the continent to which in the past no great attention has been paid. Seligman visited the two southern tribes; and a few articles in *Sudan Notes and Records* completed our knowledge of the area. It is to Dr. Nadel's credit that the very difficult task is now well advanced.

The country consists of a number of groups of hills, inhabited by Nuba, separated by wide plains into which Arabs have latterly been penetrating. The Nuba were driven into the hills partly by the need for water in this dry country, and especially by the needs of defence during the Mahdist regime. They represented 'a human enclave of aboriginal negro stock' surrounded by Arabs and Nilotes; but they present considerable physical divergence amongst themselves. They are diversified linguistically and culturally as well, and the ever changing recombinations make fieldwork an exacting task. For instance there are ten major linguistic divisions, scarcely correlated with groups measured culturally. There are over fifty tribes or divisions of tribes greatly varying in size, each generally occupying a hill area. The concept of a Nuba tribe is based upon the dogma, not always borne out by investigation, of cultural distinctiveness. Nevertheless Nadel justifies the idea of a 'Nuba culture'; for the peoples have a geographical separation, set apart from their neighbours as they are in this weird land, as well as certain common cultural traits; and this Nuba culture is seen as an 'adjustment of essentially dissimilar groups to identical conditions of life.' The similarities go beyond the economic system; they comprise also facts of clan structure, the regulation of intertribal conflicts, and so on. To resolve difficulties of presentation, Nadel groups the ten tribes studied according to the incidence of key traits—mode of succession, symbiotic clan system, and shamanism.

The painstaking descriptions of individual tribes make hard

reading because of the continual cross-reference unavoidable in a work of this kind; but they abound with facts of interest. For instance, the ceremony of the full granary, of a type familiar enough in parts of the world with greater material prosperity, whereby the surplus of a successful year is converted into immediate liberal expenditure, comes as a surprise in a land regularly visited by famine.

But it was by the administration that the work was originally suggested and the primary purpose of it was to be of assistance to government officers. Official policy, since 1938, is one of federation, bold in view of the pronounced autonomy of the constituent elements, and made more difficult by the lack of developed indigenous chieftainship. In the matter of federation, schools, hospitals, markets and so on create communities of interest where none existed before.

But it implies union of culturally diverse units, for here a cultural unit is not a spatial one. Federations had existed ephemerally in the past as areas of common peace, and the problem here, as in many societies of all kinds in Africa, is to find a modern equivalent for the mystical values which in the past were the guarantee of wider unity. The differential values set on political chiefs are another source of difficulty, and since in the past chieftainship was at best embryonic, the establishment of wide political units under one man is not a development but the creation of something quite new. The moral adjustment necessary for the administrative end of federation must come, in Nadel's view, neither from Christianity nor Islam; rather 'the administrator must be prepared to be the propagandist of his reforms.'

I. G. CUNNISON

## AMERICA

**Excavations at Kaminaljuyú, Guatemala.** By A. V. Kidder, J. D. Jennings and E. M. Shook, with tedinological notes by A. O. Shepard. Carnegie Institution Pub. 561, Washington, 1946. Pp. ix, 284, 207 illustrations, 2 maps

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Before entering on an appreciation of this important volume, it will be advisable to make its limitations clear. The site lies on the outskirts of Guatemala City, and its Quiché name, which most of us must have regarded as a pre-Columbian survival, was coined for convenience in 1936. It contains remains of three periods, first the Miraflores phase of the Middle Period (corresponding with part of the misnamed Archaic of Mexico), second the Esperanza phase of the classic Period (corresponding with part of the Maya Old Empire), and third the Amatlé-Pamplona phase, believed to belong to the early part of the Late Period. This work deals almost exclusively with the Esperanza phase and is based on the excavation of two mounds on the Finca Esperanza. Reference to the earlier and later phases is confined to the general discussion.

Both the mounds were extremely complex, containing a series of pyramidal structures of adobe or pumice, eight in mound A and five in mound B, each of them probably associated with a rectangular tomb, in which was buried an important person with his retainers and a very rich series of grave goods. Most of these tombs were found. A summary of the excavation work on each mound is given and the general reader is considerably advised to ignore the detailed account. There are useful explanations of the methods of excavation employed, which will enable future workers in the field to avoid mistakes which pioneers were bound to make.

There is a very full account of the pottery and other artifacts, in which the distribution and relations of each of the forms dealt with are discussed. This feature makes the publication much more than a description of a local culture, and every student of Middle America will be glad to have it at hand for reference. Only complete pottery vessels are studied, since it has not yet been possible to work out the large sherd collection, but the results so far obtained amply justify publication. In the face of the wealth of information given, it seems ungracious to criticize, but the provocative section on whistling jars cannot pass without challenge. Whether or not the future will show that they originated in Middle instead of South America, the evidence cited here in support of this idea will not hold water. The earliest examples in South America do not, as the authors allege, belong to the Proto-Chimu (which nearly everyone now calls Mochica). Rafael Larco in *Los Cupisniques* (Lima, 1941) mentions and figures examples from what he calls the Viru-Cupisnicoide, which is certainly pre-Mochica whatever its relation to the typical Cupisnique may be. He also figures (fig. 71) a bridge-handled jar from Paracas Cavernas, which if not a whistling jar is in a fair way to becoming one. It is also worth noting that the two

Peruvian examples which he figures for comparison as resembling Middle American ones, are typical (late) Chimu ones and nothing like the normal Mochica or earlier types.

The numerous plates are of high quality and the coloured ones, which bear striking testimony to the skill of the Guatemalan artist, Sr. Tejeda, greatly enhance our understanding of the material. Miss Shepard's appendix on petrographic analysis of tempering material is a useful addition to the corpus of material available, but a great deal more pottery from here and elsewhere will need analysis before the best can be got out of the method. In the present case she has at least established that stylistically intrusive vessels had a distinct temper.

The general results are of great interest. In the first place there are obvious relationships between the Esperanza phase and the lowland Maya, but equally obvious differences, such as the lack of stone temples and carved stelæ. The burial customs also are, with two early exceptions, quite unlike what little we know of Maya ones and resemble those of the much later people of Coclé. The other strong outside influence comes from Teotihuacán and is seen particularly in the fine series of stuccoed cylindrical tripod vases. These demonstrate indeed that there were artists capable of rendering the symbols of the complex religious cults of these two peoples at the same time. The authors think that this may be explained by an invasion of Guatemala by Teotihuacán rulers, together with Maya contact influence.

In spite of their complexity, the duration of the works on the two mounds is estimated at about a century. The Esperanza phase is equated with the Tzakol phase of the lowland Maya, Teotihuacán III, Monte Albán III, Holmul II to IV, San José (Honduras) II and perhaps the Tajín phase of the Totonac region, so that it dates at about A.D. 500 according to the latest accepted reckonings.

As has already been mentioned, the Miraflores phase is treated only in the general discussion, but this includes some very interesting matter. The discovery of pyramidal mounds in this phase, at Finca Arizona about 100 kilometres to the south and probably at Kaminaljuyú itself, is yet another nail in the coffin of the theory that these Middle Culture people were in any sense of the word archaic, as is their use of stucco for covering fired vessels. Another point of great interest is a discussion of that elusive concept the Q complex, which includes the following entertaining definition: 'a brain-child of Lothrop and Vaillant, conceived in a bedfellowing brought about by their mutual dislike of the Archaic hypothesis of Spinden.'

At the very end the authors feel impelled to point out what useful purposes may be served by detailed excavations in Middle America, which seems scarcely necessary in view of the type of audience their work is likely to reach. It is refreshing to read in the last sentence that they really did it because they liked it!

G. H. S. BUSHNELL

## EUROPE

**Anthropologia Helvetica: I, Die Anthropologie der Eidgenossenschaft.** By Otto Schluginhaufen. Zürich (Orell Füssli), 1946. Text, pp. 699, 499 tables and 144 figs.; atlas, 161 maps, 168 plates

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Massive collections of data supplemented by a large number of distribution maps and photographs, in an atlas, give a synthesis

of work done by Professor Schluginhaufen and his group over a number of years on the conscripts of the Swiss army. The persons measured were recorded under cantons and the figures given are those for the canton in each case. The author therefore accepts the limitations inevitably involved in this mass treatment and perhaps accentuated in the valiant effort he makes to study ways in



which the characters noted, and they are very numerous, are combined. He naturally finds that individuals who might be considered almost complete examples of any one of, for example, Deniker's six 'race-types' are rare. In 1.77 per cent. of the cases studied there was a combination of tall stature, mesocephaly, leptoprosopy, leptorrhiny, mixed colour of the iris and brown hair. A further 1.67 per cent. agreed with the above save that their stature was slightly less. Tallness is most marked at Basel, Schaffhausen and Geneva and least marked in Appenzell, the other cantons with short stature being mostly mountain regions, though Grisons, Bern and Valais have a better average. Short-broad-headedness is most marked in Ticino and Uri, with Valais, Schwyz, St. Gall and Thurgau following on closely. Grisons has this feature less accentuated. A low cephalic index is a feature in Geneva and Vaud, where the occipital projection is apt to be specially marked. Curly hair is said to be most widespread in Ticino, Schwyz and Zug. These are but a few hints of the masses of data in a survey that covered 35,511 cases.

H. J. FLEURE

**Rural Life in Northern Ireland.** By John M. Mogeey. *Geoffrey Cumberlege, O.U.P., 1947. Pp. 240, illustrated. Price 15s.*

**138** This book sets out to be 'an attempt to describe the way of life of the country people of Northern Ireland.' The attempt is eminently successful. Its scope covers the nature of particular countrysides and how that nature has affected settlement and living conditions; the number of inhabitants in those areas, their types of work and the level of their wages; the number of households, their composition and interrelation; the movement of individuals or households; the influence of group activities and of State and local authorities; changes in social groupings and in the manners and customs of each group. After gathering an immense amount of information from many and varied sources Mr. Mogeey has sifted and reduced it to a form that is easily read and gives us an excellent picture not only of how the Ulster country folk live today and have lived during recent decades but of how they have adapted themselves to changing conditions. Over a hundred figures and tables in the text together with sixteen photographs combine to illuminate an economic survey of great interest. ROBERT GIBBINGS

## CORRESPONDENCE

**Faience Beads in the Polish Bronze Age** (*Illustrated*). Cf. MAN, 1948, 21

**139** SIR,—In connexion with the recent discussion on the importance of the imported Egyptian faience beads for the chronology of the European Bronze Age, it may be of interest to describe some Polish finds of this kind which are described in rather inaccessible publications in Polish. Segmented faience beads have been found in two distinct cultural groups: in the Tomaszów Culture of Central Poland and in the Barrow-Grave Culture of the south-east.

The Tomaszów Culture developed on the very fertile loess land north of the Vistula, between Cracow and Sandomierz, in an area previously occupied by the well-known late Neolithic Złota Culture.<sup>1</sup> The Tomaszów graves contained mainly contracted skeletons, and among the grave goods the pottery bears a close resemblance to the local Cracow group of the Corded-Ware

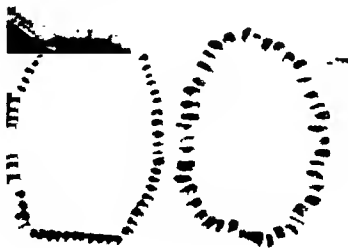


FIG. 1

Culture. Flint artifacts included almond-shaped axes, daggers and heart-shaped arrowheads, but a few bronze objects (a flat axe, a chisel and a dagger) were found. The most significant types among the ornaments from the graves were bronze earrings similar to Irish forms,<sup>2</sup> spiral beads of bronze wire and round, flat or tubular bone beads. Faience beads, round or segmented, were found in several graves in Tomaszów near Miechów, in Mierzanowice near Opatów,<sup>3</sup> and in Sobów near Tarnobrzeg.<sup>4</sup> The culture as a whole is among the earliest Bronze Age cultures of Poland.

The other group, the Barrow-Grave Culture of south-eastern Poland, is mentioned by Childe,<sup>5</sup> and is characterized by barrow graves with contracted skeletons, sometimes strewn with ochre, and buried in pits or, less often, on the ground level. In some parts of the country, especially in Podolia, a rough surrounding wall of irregular stones was built round the grave and covered under the barrow. With the burials was found cord-ornamented pottery, including small beakers and jugs and frequently Thuringian amphorae. Weapons consisted mainly of finely polished flint axes, almond-

shaped or rectangular in cross-section; flint daggers (and two of bronze); stone battle axes of Fazyanovo and other less specialized types, and heart-shaped flint arrowheads. Ornaments were rare: bone, or sometimes bronze, pins; tubular bone beads; amber pendants; bronze earrings, and, in one grave at Rusilów near Skala, a gold earring of Irish type.<sup>6</sup> In one grave at Buhłów near Krzeszów was found an ornament of silver wire, and in another, at Kryłó near Halicz, a lead ring. Faience beads were found in one grave only, at Kołpiec near Drohobycz, which I excavated in 1932.<sup>7</sup> These beads (fig. 1) were of two types: most were rounded or flattened spheroids, but there were several fine segmented beads, with up to eleven segments. There were forty-three beads in all.

These barrow graves are known in thousands, all over south-eastern Poland, and some hundreds have been excavated or pillaged. I have excavated about 120 of them, and just before the last war I was preparing a publication together with a description of the whole Barrow-Grave Culture of south-eastern Poland. The barrows are found only on the fertile soils, and never occur in the poor sandy country farther north, but along the Carpathian foothills they go westwards as far as Rzeszów, beyond the river San. They form an outpost of the barrow graves of the whole Ukrainian steppe country, and are closely connected with the Jackovica<sup>8</sup> group. Two phases of these graves can be distinguished, and the latest undoubtedly belong to the Polish Early Bronze Age.

London

T. SULIMIRSKI

### Notes

<sup>1</sup> V. G. Childe, *Dawn of European Civilization* (1947 edn.), p. 170, and C. F. C. Hawkes, *Prehistoric Foundations of Europe* (1940), p. 230.

<sup>2</sup> Cf. Evans, *Ancient Bronze Implements* (1881), fig. 490.

<sup>3</sup> K. Salewicz, *Tymczasowe wyniki badań prehistorycznych w Mierzanowicach*. (Z otchłami wieków, XII, 1937); J. Kostrzewski, *Prehistoria Ziemi polskich* (Cracow, 1939-1948) p. 203 (German translation p. 52).

<sup>4</sup> S. Nosek, *Stanowisko kultury tomaszowskiej (mierzanowickiej) w widłach Wisły i Sanu* (Sprawozdania Polskiej Akademii Umiejętności, XLVIII, Cracow, 1947) p. 278.

<sup>5</sup> *Op. cit.*, p. 171.

<sup>6</sup> Cf. Evans, *op. cit.*, fig. 492. One must remember too the gold earring of Irish type from the Wasocza hoard near Szubin in north-western Poland: Kostrzewski, *Wielkopolska w czasach przedhistorycznych*, (Poznań, 1923), fig. 127; *id. Prehistoria Ziemi polskich* (Cracow, 1939), Table 63, fig. 14 (German translations of both, 1943).

<sup>7</sup> T. Sulimirski, *Kultura człowieka przedhistorycznego* (Człowiek, jego rasy i życie), Warsaw, 1938, p. 286, fig. 422.

<sup>8</sup> Hawkes, *op. cit.* p. 230.





A FERTILITY FIGURE FROM NORTHERN NIGERIA

*Scale about one-quarter photograph by B. E. B. Fagg*

# A FERTILITY FIGURE OF UNRECORDED STYLE FROM NORTHERN NIGERIA\*

by

BERNARD FAGG

*Government Archivist, Nigeria*

**I40** The carved wooden figure illustrated in Plate K and fig. 1 was collected some years ago at Nasarawa, Benue Province, Northern Nigeria, by Mr. W. H. Mellor, then District Officer in charge of Lafia Division: he presented it to the Jos Museum in 1945. The only available information about it is a few notes by the collector, who thinks, however, that more information, and perhaps more figures, could still be collected in the Nasarawa District. He has himself seen a similar figure in a shrine in the bush near Nasarawa, flanked on each side by a mud pillar and with a stone sacrificial altar in front.

The figure was presented to Mr. Mellor by the District Head of the Afo Federation, who stated that it was a fertility idol of the Afo tribe and had been in use for a number of years in a village named Onda, near Nasarawa. Sacrifices, including chickens, had been made to it to promote human, animal and crop fertility (though no remains of sacrificial blood or food can now be seen on the specimen).

The carving represents a nude woman with exaggerated breasts and navel, and with a child clinging without apparent means of support to her back: the child's head is, as usual, turned full to one side, in this case the left. The woman's body, neck and face are liberally covered with incised geometrical cicatrizations and her hair is done into a 'keel' with separate lateral tufts above the ears. The arms are carved free of the body. The whole, including the child and the stool, is carved from a single piece of fairly light-weight wood and has been stained to a dark brown colour: it stands about two feet six inches high.

No close parallels to this style of carving seem to have been published in the literature on West African art, and neither Mr. Kenneth Murray, Surveyor of Antiquities in Nigeria, nor my brother, Mr. William Fagg, of the Department of Ethnography, British Museum, has seen any similar piece. It is, however, generally similar in conception, if not in detailed execution, to the kneeling or seated female figures, usually with one or more children, which are carved all over Yorubaland as images of Odudua, the Earth Mother, and my brother points out some specific resemblances to two fine Northern Yoruba carvings of this kind in the Horniman Museum, recently published in Leon Underwood's book *Figures in Wood of West Africa*, 1947, plates 18 and 21 (especially, in plate 18, the legs and feet, stool, mouth and chin; in plate 21, the stool, navel

mouth and chin, position of the child on the back, and crest of hairdress of mother and child; and in both a generally similar arrangement of body markings). A back view of the second of these figures appears also in Sadler's *Arts of West Africa*, 1935, plate 8, where the provenance is given as 'Yoruba of the Benue River District,' the collector's name as Major F. H. Ruxton, and the date of acquisition by the Museum as 1929. The three radiating lines incised at each corner of the



FIG. 1

mouth of the present specimen are fairly common in West African sculpture, notably on bronze figures from Benin and on one of the small terracotta heads collected by Frobenius at Ife: they also occur, perhaps significantly, on pottery figures of the Ankwe tribe, about a hundred miles to the east of Nasarawa, examples of which have been published by Meek (*Northern Tribes of Nigeria*, Vol. 2, fig. 98), and by Peake and Brauholtz (*MAN*, 1929, 87). This mark is often said to be a 'badge of Islam' (Meek, *op. cit.*, Vol. 1, fig. 28).

In general it may be said that the affinities of this piece are with the western rather than the eastern tribes of Southern Nigeria.

\* With Plate K and a text figure.

# ON THE MORPHOLOGICAL VARIETY OF MODERN GREEKS

by

PROFESSOR JOHN KOUMARIS

*Professor of Anthropology and Director of the Museum of Anthropology, University of Athens;  
Permanent General Secretary, Hellenic Anthropological Society*

**I41** Modern Greeks display a striking variety of types; but any race, studied in detail, reveals a certain variety of forms, in spite of the superficial similarity in respect of, say, colour. Thus, among modern Greeks a certain similarity of general type is perceptible though not verifiable by fundamental anthropometric methods. If we look at the composition of, say, the British race, we note that in the union of the prehistoric elements with the historic Kelts, Anglo-Saxons, Scandinavians and Normans, those strains which are most closely related to each other, although they were added more recently, are no longer to be recognized as distinct from one another; the Celtic element, however, remains fairly distinct.

Without wishing to maintain that no other crossing has taken place, we must state that the mixture of racial elements in Greece has been different in the following respects: first, in Greece the component elements have not (except a few) come from very far away, but are all in a sense 'indigenous' around the Greek Archipelago; and second, that they are all 'related,' belonging to the 'Mediterranean cycle.' This mixture of different varieties of closely related groups has been going on from time immemorial, which explains the present diversity of the Greek race. This view is supported by the recent intermixture with the Albanian, *i.e.* the Illyrian, race.

The variation of the original types is to be ascribed to the diversity of the soil on which they were developed. The variation and dispersal are therefore very old, and do not arise from recent crossings with altogether different racial elements from afar. However, the following three principal types, developed in south-east Europe and beyond the Euphrates region of Asia, may be distinguished.

(1) The first fundamental racial nucleus is the 'Mediterranean' race, as it is called, appearing in the Greek countries under the name of Prehellenes (Pelasgi); their characteristics are preserved in modern Greeks. We do not know if this type comes from the Hamitic stock of Egypt (as C. U. Ariens Kappers suggests in a private letter) or is largely indigenous, as I believe.

(2) The second is that generally called 'Anterioasiatic,' also to be traced to prehistoric times and forming the initial background of the Greek world. This is a widespread type, probably closely connected with the Mediterranean, and of the same race as the Hittites. It appears also in some other varieties, such as the Kares, Leleges, etc., some of whom contributed to the formation of the Greek race, and in Crete there are 'Anterioasiatic' elements from the third Egyptian Dynasty. From this type originates the tendency to brachycephaly.

(3) The third has characteristics (mostly shared with the Mediterranean race) of the so-called 'Northern' race. But this type, though not proved for all ancient Greeks, existed even among the Prehellenes and in Crete. I believe it to be indigenous. C. Fuerst, comparing Swedish and Mycenaean skulls, thinks it impossible to prove that most of those buried in Asine, for example, belonged to a Northern race. Many penetrations

would be due to the Mediterranean race; consequently those more or less fair characteristics are wrongly ascribed to the Northern race of Europe. We know that the Epirotes of the third millennium B.C. were related to the Mediterranean Macedonians; Macedonia was Greek and it was from these regions that the various 'descents' were taking place.

Consequently, Greeks appear in prehistory and history with varying basic morphology, due to the initial fusion of indigenous and related groups; at the beginning of the formation of the Greek race a continuous fusion of three important and related racial elements, all 'circum-mediterranean' or 'periægean,' took place. Some of them undoubtedly constitute a continuation of local palæolithic elements, but some remain a mystery. The mesocephaly and sub-brachycephaly therefore derived mainly from prehistoric times and not from later intermixtures, which have been few and insignificant.

Despite this morphological diversity the psychical uniformity acquired from intermixture and relationship is of great importance. In general we can say that the psychical character of the groups which formed the Greek race appears distinctly uniform; the more detailed psychic differences due to local variations of environment and climate can be overlooked.

The above explains why 'it is inaccurate to say that Modern Greeks are physically different from the Ancient' (Coon, *Races of Europe*, 1939). The physical and psychical characteristics of Slavs, for instance, are altogether different from those of Greeks, among whom Slav characteristics are rare.

The relation between the serologic type of Greeks in Greece and those of Asia Minor (who came to Greece in 1922) lends support to this view. From the serologic point of view we find an obscure bond between the 'anterioasiatics' and the other Greeks. On our results concerning Mediterranean race influence, Shanklin (*Amer. J. Phys. Anthr.*, 1936) says: '... a fact further confirmed by Koumaris, for he found prevailing in parts of Greece and the nearby islands a high percentage of blood group O.'

Thus the Greek race, in spite of its rather large form variation, nevertheless produces a characteristic type, though one that escapes exact anthropometric definition. The elements which constituted our race were developed locally, in the Aegean region. All these peoples belonged to the same 'Mediterranean cycle,' and their occasional descents brought about the intermixture.

The result is a 'race' according to the well-known definition: it has almost uniform characteristics, physical and psychical, inherited in its descendants; it has all the principal characteristics of the basic elements, which are all Greek and indigenous in spite of the variety of types. If

the British, for instance, with their various nuclei, form one race, the Greeks have a greater right to be so considered. This race is distinguished today by a kind of 'fluid constancy,' with its own soul and especially with its own variety, dating from prehistoric times. We insist on the effort to preserve that race. Races exist and will continue to exist; and each one defends itself. Because every infusion of 'new blood' is something different and because children of mixed parents belong to no race, the Greek race, as all others, has to preserve its own 'fluid constancy' by avoiding mixture with foreign elements.

The conservation of each separate race must not be frustrated by difficulties such as inter-racial hatred. If

the adjustment of frontiers were based on anthropological knowledge, then the mutual hostility surviving from primitive times among semi-cultivated frontier peoples would vanish. That would be easier to accomplish than fusing all existing races in one. For this purpose, we must teach in schools not conquest but the collaboration of races, not racial hatred but the special value of each race, not the superiority of any race but their differences, not the extermination of other races but the relation of each to the soil which is sacred for it.

The Greek race was formed under the Acropolis Rock, and it is impossible for any other to keep the keys of the sacred rock, to which the Greek soul is indissolubly linked.

## THE FUNCTION OF 'MEDICINE' IN MENDE SOCIETY

by

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**142** The Mende attitude towards the supernatural world involves a number of interesting conceptions. One of these is *Leve*—in modern usage *Ngewo*—which may be directly translated as '(Supreme) God.' All life and activity, in both a material and a non-material sense, derive from *Ngewo*. *Ngewo* created the world and everything in it, including not only human beings, animals, plants and so on, but also spirits. In addition, he invested the whole universe with a kind of non-material power or influence which is not directly visible to the naked eye but manifests itself in various ways and on special occasions in human beings and animals, and even in natural phenomena such as lightning, waterfalls and mountains. He is the ultimate source and symbol of that power and influence, but, although all-powerful, he is not an immanent being. Like most African Supreme Gods, having made the world, he retired far off into the sky. He has little immediate contact with the affairs of human beings, though he still sends the rain to fall on his 'wife,' the Earth (*Ndoi*).<sup>1</sup>

Little is known about the exact nature of *Ngewo*, because no one has ever seen him. He is not entirely unapproachable, however, and sometimes a prayer may be addressed directly to him. But he is more usually to be approached in an indirect way through the medium of spirits and ancestors.<sup>2</sup>

This power or influence which *Ngewo* has left behind and which derives from him is an equally generic conception. It is expressed in the term *hale*, usually translated as 'medicine.' In common parlance and in a specific and rather limited sense, this word denotes any physical object or instrument employed to secure certain ends by other than material means. This reading, however, tends to conceal the fact that the object concerned is impregnated with a spiritual force which is also external to the object itself. It is significant, for example, that in 'swearing' on a stone or anything else 'that *Ngewo* made,' the Mende believe

that the 'spirit' in the stone will be helped by *Ngewo* to carry out the purpose of the 'swear.'

It would be more appropriate, therefore, to regard *hale* as something which is generally latent, and which requires only some special kind of action or some special circumstances to be made actively manifest. In essence *hale* is entirely non-moral and 'neutral,' but it may be manifested as good or bad, as positive or negative, according to the person who uses it and the way it is used. Theoretically, anyone may use 'medicine,' but in practice there are special practitioners in its production and employment, because *hale* is potentially dangerous as well as potentially helpful. Mishandling of it may bring down harm on its manipulator and those associated with him. Moreover, the best results are obtained by those who have the skill and knowledge to use it<sup>3</sup>: just as *hale* can be used for and on behalf of anyone, so it can be used against anyone.

First and foremost among these spiritual 'technicians' come the officials and senior graduates of the secret societies, like the Poro, Sande (Bundu), Humoi, Njavei, etc.: these are specialist bodies. Then come the individual 'technicians,' like the *halemoi*, or medicine-man, himself, soothsayers, diviners and so on, down in order of respectability to 'mori-men,' sorcerers and witches. An important sociological distinction has to be made between the various categories. The function of the secret societies is essentially a socially approved one. The ends in view and the work undertaken under their aegis, either in a corporate sense or through their accredited representatives, are to be regarded as socially beneficial. They may range from something as specific as the cure of an individual illness to the furthering of the general welfare and prosperity of the community. In this respect the role of the secret society is somewhat analogous to that of a State medical service as opposed to private practice. In theory, remuneration is made as a

payment to the society itself, and the skill of society officials, derived from their membership of the institution, is a form of society property which can be used and handed on only in terms of the society and under its auspices.

On the other hand,<sup>3</sup> though the medicine-man may sometimes be employed for a purpose which has communal implications, such as the preparation of a rice medicine, he and others of his kind are essentially private practitioners. They are engaged for, and serve, individual and personal ends rather than public ones. Their knowledge is their own, and they can pass it on to whom they like and at whatever price they can obtain for it. Usually medicines and techniques are handed on from father to son, or to an 'apprentice.' Occasionally, however, someone quite outside the 'profession' has a dream and compounds a new and successful medicine as the result of it. His fame spreads and he establishes a position for himself.

In view of the medicine-man's individual role, the kind of work undertaken and the engagements he fulfils are not necessarily of a character which can objectively be judged as social. The same applies to the *uori*-man,<sup>4</sup> who comes within the same category. They both undertake anything from a love potion to a cure for a headache, or from a talisman which will secure successful candidature at a chieftom election to a 'swear' which will bring about the downfall of a rival. At the same time, their status is fully recognized and publicly used and acknowledged on specific occasions—for example, in the hire for juridical purposes of particular medicines owned by them. They may even be called upon to perform various communal ceremonies in connexion with the propitiation of certain *dyinaugo*, or *geni*,<sup>5</sup> associated with rivers.

Nor, in the general sense, are medicine-men and like practitioners of this accredited category held personally responsible for the outcome of their work, unless it is of a patently anti-social character. If the victim of it has any complaint he should lay it primarily against the person who hired the medicine-man. It is the former who incurs the main responsibility. The existence of *hale* is legally and officially recognized, and the medicine-man is simply the agent of it.

There are, on the other hand, certain practitioners, such as witches and sorcerers, and persons who possess 'bad medicines,' like the boa-constrictor, who are regarded quite definitely and specifically as anti-social. They have absolutely no legal status, and it is the duty of every member of the community who knows their identity to bring them to the notice of the authorities for proper treatment and punishment. Until quite recently, and the belief still lingers in the more remote areas of Mendeland, witchcraft was always suspected when a person died. Everyone associated with him was regarded as a potential witch. The liver was cut out of the corpse and dropped into a pail of water. If it was not of the appropriate shape and colour it was conclusive proof that a witch's spirit had entered into the person concerned, and the body was buried under a heap of stones with a stake through it to prevent the witch spirit wandering and harming other people. If the liver sank half-way in the water it indicated

that the person was a witch in part (*hubonei*); he could detect witchcraft but could not perform it himself.

Sometimes the witch spirit (*honei*) sets out to kill a child but is thwarted. Instead it enters the child and they grow up together, so that the child becomes a 'witch person,' or 'witch host' (*honamoi*). He will always deny this, but he knows it to be a fact. The movements of the *honei*, or witch spirit, are controlled by use of a certain leaf which is picked by the *honamoi* when he wishes the *honei* to go out at night time. The *honei* can travel about independently of the *honamoi*, while he is sleeping, on bats and owls.

The *udilei* medicine provides a particularly clear example of the negative working of *hale*. This is a medicine which can be transformed into a boa-constrictor by the (witch) person owning it. It is a mineral substance whose Mende name is *tingoi*, and it is hollow inside. It can be bought from its existing owner, if the latter wishes to rid himself of it. Disposing of it, however, carries a very grave risk, including death, because the medicine becomes an integral part of its temporary owner. This is because he becomes virtually the slave of the medicine in return for the work which it does for him, and is slavishly subject to its will. The only safe way of getting rid of it is through the *kema-bla*, who, as witch-finders, have an antidote for witchcraft and can distinguish the evil thing in the dark.<sup>6</sup>

In terms, therefore, of the work done, the owner of the *udilei* and the medicine itself may be regarded as one; since through association with the latter the owner becomes a witch. He may have acquired it for the purpose of avenging himself on someone who has wronged him; but once under the medicine's power he is committed to the life of cannibalism which wizards and witches lead.

This witch boa-constrictor (*udilemoi*) works always by night, and feeds on the blood of his victims by sucking it vampire-like out of their throats. Usually his attentions are fatal, and he has the power, also, of causing infantile paralysis in children. The *udilemoi*'s first step is to secure some article which has any kind of association with his intended victim. This may range from a piece of clothing to anything picked up from the victim's farm. Without it the witch has no means of attacking the artery. The medicine itself is then buried close to the victim's home, perhaps outside in the bush or even at the doorway of his house—in any place from which his house can be seen. From there it is transformed at the appointed hour into the boa-constrictor.<sup>7</sup>

Both the secret societies and individual practitioners operate very largely by means of medicines (using the term in its more specific sense), and to 'work medicine' may be regarded as the verbal expression in this respect. Physically speaking, a medicine is generally a compound of herbs mixed as a rule with other natural ingredients, such as soil and leaves, and the whole is saturated with water. Medicines of this kind (*saueisia*) are usually employed ritually for 'washing' certain social offences and crimes, as well as for the cure of physical ailments. Other medicines, particularly the kind used forensically, may consist of a wide variety of miscellaneous objects, such as cowries, old razor blades, ribbon, feathers, animal fat,



human nails, etc. Often the medicine is tied up in a piece of cloth, or it may be contained in the horn of an animal, such as a sheep or a goat. There appears to be no rigid rule in regard to the choice of the materials, though unusual objects are preferred because, it would seem, they possess some extra quality through their abnormality.

An essential part of the technique of working medicine is that the objects used should deliberately be 'set aside'; one might almost say 'consecrated' for the purpose in view. Once the medicine-man in charge of the work has done this, the objects themselves are impregnated with power and become effective media for its transmission. As such their potency varies with their present and previous associations and with the 'medical' prestige of the person compounding them. In other words, they may be likened metaphorically to electric batteries. They are charged with energy.

As already indicated, medicines constitute a form of private or of collective property according to their nature, and they can be inherited or hired out in the same ways as other forms of property. Individual medicines, such as the *ngeleba* (thunder medicine), and the *tilei*, which eats away a person's nose, are known far and wide and their possession and use are vested in the families owning them. Other medicines are owned collectively as chiefdom or as society medicines. These may be used only for public or special purposes. Chiefdom medicines sometimes consist of a collection of erstwhile private medicines which have been confiscated because their owners were using them in a nefarious way. The fact that they can be 'municipalized' in this way illustrates the point made in an earlier paragraph about the 'neutral' character of *hale*. It is also significant in this respect, that as a generic concept *hale* has to be designated specifically in terms of the way and according to the purpose for which it is used. Thus, *mmu bao hale* is a 'medicine that can cure,' i.e. one intended for protective purposes; *kpoi hale* is a drinking medicine, i.e. for medical purposes in the sense of a physical cure; *sondu wa hale* is a medicine for 'swearing.'

The intrinsic quality which medicines possess, and which renders them dangerous for ordinary handling, along with the way in which they are compounded, puts them into a somewhat different category from other quasi-religious or magical paraphernalia. For example, the *las moi* (in Creole patois, *sebe*), or talisman, consists of a piece of Arabic writing sewn into cloth, and its efficiency derives exclusively from the prestige of its manufacturers, Moslem medicine-men, or *mori-men*, as practitioners in the supernatural. A very similar type of charm is the *nessi*, also made by *mori-men*: a verse from the *Quran* is painted on to a smooth wooden board, shaped rather like a shield, and the writing is washed off with water into a bottle. It has the effect of bringing good luck to its possessor.

The so-called 'sacrifice' is another aspect of the use of *hale*, and its purpose is generally protective. In the case of the *kpakepa* it is often something which is communally 'set aside' with the object of warding off potential danger to the chiefdom as a whole or to a group of individuals, such as a family. It may be made specially by a medicine-man, or

even by a private person acting on the latter's advice. It is used sometimes in court cases as a way of turning what would otherwise be an adverse judgment into a favourable one.

Another form of 'sacrifice' is the *saa hani*, a white rag hung from the rafters of a house or tied to a pole outside it in protection of its inhabitants. This is a peculiarly Moslem feature. A further type, which has more in common with the European meaning of the term 'sacrifice,' is the custom of slaughtering a goat or a fowl as a way of propitiating the ancestors. In general, however, the practice of sacrificing does not seem to contain any symbolic or even imitative property. Its implications are mainly compulsive and coercive. A person who is in trouble or is fearful of getting into trouble goes to the soothsayer, and the latter instructs him as to what he should sacrifice. It may be a hoe or a knife. Nor are the objects to be 'set aside' necessarily of any special economic value; the person concerned simply places them in a corner of his house or out in the compound. Sacrificing is associated with all kinds of objectives, from paying off an old score against a rival to curing illness in a child.

In addition to its employment in the protection of life and health and in promoting prosperity, medicine has a very important forensic function. It is an essential part of legal procedure and the main way of attesting evidence. It is also used widely in safeguarding public and private property from theft, and in detecting criminality. In court, medicines are administered in various forms which range from the tasting of salt to the blowing of a pair of bellows. Both plaintiff and defendant must be 'sworn' in this way before their statements can be taken. They declare: 'O big medicine of the such and such chiefdom, may I die if what I say is not true.' Or a medicine may be used for the purpose of confirming a verbal promise. The person concerned swears on the medicine that he will carry out what he has undertaken. A person whose property has been stolen denounces the anonymous thief and verbally invites the medicine to bring him to disaster. In both cases the implication is that the medicine itself will serve as the instrument of justice. 'Swears' made in this way, however, can be 'pulled,' i.e. removed, if either the person who made the 'swear' or the owner of the medicine used for the purpose can be persuaded to do the 'pulling.' In such a case the verbal injunction contained in the original 'swear' is simply reversed.

Finally, it should be stressed that the secret societies take the most general part in the control and manipulation of supernatural power. In the old days it is probable that their monopoly was even greater and that it excluded much of the 'private' practice evident nowadays on the part of *mori-men* and related practitioners. Even today the regulation of sexual and social conduct and supervision of a good deal of political and economic activity is still vested in them. In all this the special society medicines play an essential part which is too extensive to be detailed in present space.<sup>8</sup> The Sande medicine, for example, has two main purposes: it is to propagate and foster womanly character and virtue, and to 'wash,' i.e. cleanse and purify, women if and when

they 'fall short in these respects. The 'Sande (or Bundu) corner,' a screened-off portion of the house occupied by the principal woman of the society, contains the society's medicine and is therefore a place of peculiar sanctity. Any intruder will incur not only the severe displeasure of Sande members but the additional disability of a swollen stomach. Only the society, using the medicine which caused this, can 'pull' the effect.

#### Notes

<sup>1</sup> The Mende rationalize the relationship of the deity to the objective world in their saying that 'God is the Chief.' The ordinary Mende man does not approach a chief directly but uses a 'big man' or someone who has the chief's ear as an intermediary.

<sup>2</sup> Poro ritual provides an important example of this. In addressing the Poro ancestral spirits, the elder says, 'Through you we go to *Leve*, i.e. God. It is also customary in prayers to the ancestors or in injunctions involving the specific use of medicines (see later paragraph) to end with the expression 'Ngewo jahu'—'God willing.' A further and significant hint on this point is afforded by the common expression, 'I leave it all to God,' the Mende man's philosophical reaction to the injury another person has done him. God will take revenge on your behalf: but if you are not content to leave the issue to Him, you take the initiative yourself, hence the existence of 'bad medicine.'

<sup>3</sup> Part of the technique, in the case of specific medicines, consists in 'talking' to them in a certain way every day.

<sup>4</sup> The main difference between the medicine-man, or *halemoi*, as such, and the *mori*-man is that the latter uses, and purports to work mainly by means of, various Islamic paraphernalia, such as inscriptions in Arabic writing, beads and Sura as well as numerous charms and talismans associated with the occult side of Islam. Largely through his professed connexion with Islam, the *mori*-man

enjoys greater prestige than the ordinary medicine-man in many communities.

<sup>5</sup> For a detailed description of these important denizens of the Mende supernatural world, including ancestral spirits, see Sjoerd Hofstra, 'The Ancestral Spirits of the Mende,' *Internat. Arch. für Ethnogr.*, Vol. XXXIX, Part 4, 1940, and 'The Belief among the Mendi in Non-Ancestral Spirits,' Vol. XL, Parts 5-6, 1942.

<sup>6</sup> Another 'antidote-people' are the *kondobla*. They can provide a counter-medicine to witchcraft (*kondo-gbandei*), made out of a small piece of bamboo cane. This, when hung over the door, or over a child's bed, has the effect of 'shooting' the witch. The witch's only hope of salvation lies in confessions to a soothsayer. The latter refers him to the *kondomoi*, who requires him to surrender his 'leaf.' Without this the witch or *honamoi* has no power. He is then treated by the *kondobla* for his sickness.

<sup>7</sup> The Speaker (next in order of precedence to the Paramount Chief) of an upper Mende chiefdom gave this account of his experiences with a 'boa-constrictor.' One day he noticed an old woman among some rice bundles at a farm. She was moving about stealthily and eventually unwrapped a triangular-shaped object from a piece of shirting. She then pointed it towards each point of the compass in turn, touching her breast with it after each movement. After hiding the object under the rice, she went away. The Speaker went over to the bundles, and on putting his hand down to examine the object received a violent shock which bowled him over. He saw a bright light, rather like a rainbow, and the end of it rested on the neighbouring farmhouse. Presently the old woman returned and repeated her actions. Being suspicious, he reported the matter to the Chief. The *kema* people were sent for, and in the old woman's house they found the object in question. Along with it was a head tie belonging to a woman in the town, and a collection of stones equal in number to the houses in the village. The woman to whom the head tie belonged became paralysed soon afterwards. The old woman herself was 'sworn,' and she herself died soon after this.

<sup>8</sup> Cf. K. L. Little, 'The Poro Society as an Arbiter of Culture,' *African Studies*, Vol. VII, No. 1 (March, 1948), pp. 1-15.

## SHORTER NOTE

### South African Prehistory in the War Years: Part III.\*

143 By A. J. H. Goodwin, M.A., F.R.S.S.Af., Senior Lecturer in Ethnology and Archaeology, University of Cape Town

#### Prehistoric Art

The Bureau of Archaeology (now the Archaeological Survey) produced a site list and crude distribution map of Prehistoric Art in 1936. This was very largely based upon a more complete analysis prepared at Cape Town by I. Schapera in 1925. It was sent to various mission stations, magistrates, schoolmasters and government officials throughout the country, with the very pleasing result that the number of sites listed in the new edition of 1941<sup>24</sup> has been more than doubled. The map in its present form is essentially a record of gross distribution, and is without deductive value from the purely ethnological standpoint. Eventually the considerably augmented information should be produced in the form of an atlas, designed to carry a scientific message on a variety of different distributions. Our exact data are still insufficient to permit of the publication of such an atlas. The present map differentiates only between paintings and petroglyphs. In actual fact each of these represents a series of schools, styles and periods. Some of these provide a clear link across from paintings to engravings, and striking similarities of style and content can be recognized. There is thus the possibility of proof that certain

phases of paintings and of petroglyphs were an expression by the same people of the same cultural ideas and background in the two different media. In the majority of periods, however, the two media of expression show clear-cut differences, so that no linkage can be recognized. We should be able to develop a series of datum lines or horizons from the linked periods, and date styles as belonging before or after these chronological moments.

In the field of pure chorology we do already know much about the distribution of such recognizable elements as footprints, plant forms and a variety of techniques in the petroglyphic series, and of dots, hands, bichromes, polychromes and certain conventions in the painted series. The beginnings of a survey of such distributions might well be initiated from the evidence we already have.

There has been some revival of local interest in prehistoric art since 1944. This is in part due to the return of the Abbé Breuil to this field, and in part to the interest taken by a Pretoria artist, Mr. Walter Battiss, who has turned to this somewhat unexpected source for inspiration. These two have combined in a paper on paintings from the Ladybrand district.<sup>25</sup> The first part of the paper (by Breuil) describes a series of aquatic animals from Rose Cottage Cave. Breuil's suggestion that the asymmetrical tail proves that these were sharks is countered by a later statement by Dr. K. H. Barnard, who points out that the tail is the only characteristic suggesting shark, while others imply different fish. The sizes of the originals (44 to 48 centimetres in length) suggest that they

\* For Parts I and II see MAN, 1948, 118 and 132.

were large for river fish. The second portion of the paper, by Battiss, discusses painted fishing scenes from Himeville, Natal. Here we are certainly dealing with an important addition to prehistoric ethnology. In an area where the dug-out is completely unknown today we have some nine boats, each with a man standing in it, spearing fish: seven of the nine boats have a clear bowsprit, or perhaps an overhanging stern platform. The Bantu along this coast have speared fish in wide river estuaries for many years, but they do not seem to have made any use of the canoe. A further scene containing fish, and a man apparently spearing one, is depicted from the Uysberg, Ladybrand district.

Following upon the work of Breuil and Battiss, Dr. L. H. Wells<sup>26</sup> gives further prehistoric paintings of fish from the farm Caledon Poort (190), Fouriesburg district. Three figures suggest dolphins and one or two are certainly fish. Two additional fish-like forms are depicted from a slab in the possession of the Archaeological Survey in Johannesburg.

Two papers by the Hon. L. Cripps<sup>27</sup> give a short survey of prehistoric paintings in Southern Rhodesia. Two further papers by Mrs. Goodall<sup>28</sup> show two distinctive breeds of sheep, the one quite certainly the 'fat-tailed sheep' of the Hottentots of the Cape, the other less certainly recognizable. The former come from Surtic Farm, Mazoe, the latter from Shanva and Mtoko. Again a clear sidelight is thrown on the ethnology of the Hottentots farther to the south by this recognition of a wider distribution for the fat-tailed sheep than can be found today. The second paper is of marked interest as it attempts (very clearly) to show the relationship existing between certain paintings belonging to Rhodesia's most flourishing period of cave art and African burial rites. These appear to conform with ceremonies painted on the rocks; desiccation, the wrapping of the body in a hide, and final burial.

A paper by van Riet Lowe<sup>29</sup> puts forward the suggestion, previously made in the Natural and Historical Monuments, Relics and Antiques Act, 1934 (as amended by the Natural Monuments Amendment Act, 1937), that a colour code or a dictionary of colours should be used in identifying the exact shades used by prehistoric artists. Unhappily the only such books so far approved by law are expensive and are only available in Johannesburg, which increases the difficulty for the fieldworker.

Two papers in the same publication, by G. Tylden<sup>30</sup> and van Riet Lowe,<sup>31</sup> provide a means of dating certain of the more recent paintings, chiefly in the Basutoland-Free-State area, by means of the simple heraldry of the Bantu regimental shields.

Two brochures written to cover exhibitions of prehistoric art deserve some mention.<sup>32, 33</sup> The first was intended for an exhibition of paintings held in Johannesburg by Walter Battiss; the second accompanied the Exhibition of Prehistoric Art which toured southern Africa during a large part of 1946, and covers very briefly much that is known about our art generally.

The artistically duller petroglyphs have not evoked so much in the way of publication, but a paper by Lowe<sup>34</sup> describes four or five types of engraving from immediately south of the Magaliesberg range. They are situated on three farms over a range of some twenty miles: (1) very finely engraved and hatched geometrical designs, (2) finely engraved animal profiles, (3) smoothly rubbed and polished silhouette with finely engraved profile, (4) grooved profile and (5) possibly painted silhouette with finely engraved profile. Lowe regards these as of great age, as the rock surfaces that contained rock engravings have in several cases weathered away, taking portions of the engravings with them. Very similar conclusions on other grounds were reached by me from Vosburg (1936) and from Gestoptfontein by Lowe (1937) with regard to the finely engraved cross-hatched designs. Others in this series can also be compared with those sites farther south.

### *General Methodology*

A short paper by Malan<sup>35</sup> is intended to explain to members of museum staffs how a cave deposit should be approached and stratification, etc., watched to obtain the maximum of evidence. While it is necessarily brief, the main principles are given, and this should prove a useful introduction for museum workers. Somewhat similar, though longer and of far wider scope, is a handbook by me<sup>36</sup> in which the main problems encountered in the African field are discussed. Chapters deal with definitions, technique, field research, geological records such as river gravels and raised beach deposits, cave deposits, etc. The handbook is intended for the use of amateurs who are interested in prehistory, in the hope that far greater care will be taken in the development of prehistoric sites and deposits in the future.

### *General Comment*

The speed with which cave sites are now being excavated and the vast quantity of material that has already been accumulated from these and other stratified deposits make it abundantly clear that South Africa has now reached a stage when a careful and complete digestion is overdue. The quantities of partly published or completely unpublished material, that should be at the disposal of the fieldworker, are such that a decided effort should be made to call a halt to further excavation until this unwieldy assemblage has been carefully examined, compared, illustrated and published.

One of the major drawbacks to the employment of government funds for research of this nature apparently lies in the need for some production of tangible results during the budget year. This is leading in an increasing measure to 'preliminary reports,' sometimes so called, but more often titled as though they were conclusive. Completely digested records are then postponed until some further deposit in a different part of the country has been hurriedly dug.

A comprehensive picture of South African prehistory can only be developed by maintaining an even balance between our various types of site. Under local conditions the open site provides us with the bulk of our material, but is generally stratigraphically useless. It has to be studied in relation to stratified cave sites when these are found. This added burden upon the detailed stratigraphy that a cave will yield should mean that extreme care should be exercised in excavation and documentation. If this is done, the evidence so acquired can the more safely be extended to cover exposed surface sites. Correlations of this sort are only possible with a planned system of partial decentralization, by which material from one general area automatically goes to the appropriate museum or repository of that area, and not to a central store.

In addition there should be a constant check upon the results obtained from raised beach deposits, against discoveries made in river gravels along the littoral and inland. Most of our beaches of Quaternary times persist today as fragmentary deposits on steep talus slopes that descend from hills topped with quartzitic sandstone. Slipping talus and the accumulation of surface material against the bench of the raised beach often provide very misleading evidence, more especially in view of the rolled condition of the tools that yield our data.

Perhaps the most important result of war conditions has been the great increase in the number of caves that are being excavated commercially for the obtaining of lime, guano, etc. The absence of shipping and the need for additional materials for building and for fertilization have led to the destruction of literally hundreds upon hundreds of tons of stratified prehistoric cave deposits. Unhappily the same legislation which protects these deposits from the trowel and sieve of the unlicensed excavator adds the rider

'provided that this prohibition does not apply to removals that result from the normal activities of *bona fide* mining, engineering and agricultural enterprises.' This virtually means 'do not employ a sieve, dynamite is preferable.' Scientists are not welcomed under such circumstances, as an important discovery might hold up commercial enterprises for a week. Instances occur in which material is deliberately destroyed or reburied for this very reason. Perhaps the greatest amount of harm has been done along the southern coast from Saldanha Bay to Port Elizabeth, though here and there the Forestry Department has made some effort to protect cave sites that lie within its preserves.

In the field of prehistoric art the tendency recently has been to look for the rare and the exotic, and to avoid the far more humdrum approach that chorology would yield. Gross distribution should certainly be abandoned in favour of a series of detailed distributions, such as have been suggested above.

In all, there is insufficient planning, insufficient guidance and thoughtful co-operation behind prehistory in South Africa; the war has been responsible for some of this, but in contrast to the European field, South African prehistory has been provided with an excuse for reflection and digestion by these years, and we cannot reasonably plead the conditions of war for our lack of a solid 'five-year plan.'

Notes (numbered in continuation of those to Parts I and II)

<sup>24</sup> C. van Riet Lowe, 'Prehistoric Art in South Africa,' *Bur. of Archaeology, Arch. Ser.*, Vol. V. (1941), 36 pp. with map.

<sup>25</sup> H. Breuil, 'Sea Animals amongst the Prehistoric Rock Paintings of Ladybrand' (with an addendum: 'Prehistoric Fishing Scenes,' by Walter W. Battiss), *S.A.J.S.*, Vol. XLI (1944), pp. 353-60.

<sup>26</sup> L. H. Wells, 'Marine Animals in a Rock Painting near Fouriesburg, O.F.S.,' *S.A.J.S.*, Vol. XLII (1945), pp. 236-9, illustrated.

<sup>27</sup> L. Cripps, 'Rock Paintings in Southern Rhodesia,' *Tr. Rhod. Sci. Ass.*, Vol. XXXVIII (1941), pp. 29-33; Vol. XXXIX (1942), pp. 99-102.

<sup>28</sup> E. Goodall, 'Domestic Animals in Rock Art, and Some Observations on Rock Paintings illustrating Burial Rites,' *Tr. Rhod. Sci. Ass.*, Vol. XLI (1946).

<sup>29</sup> C. van Riet Lowe, 'Colour in Prehistoric Rock Paintings,' *S. Af. Arch. Bull.*, Vol. I (1946), pp. 13-18.

<sup>30</sup> G. Tylden, 'Bantu Shields,' *S. Af. Arch. Bull.*, Vol. I (1946), pp. 34-7, illustrated.

<sup>31</sup> C. van Riet Lowe, 'Shields in South African Rock Paintings,' *S. Af. Arch. Bull.*, Vol. I (1946), pp. 38-40.

<sup>32</sup> H. Breuil, *Landscapes of the Soul*, Pretoria, October, 1944, 8 pp., 4 plates.

<sup>33</sup> A. J. H. Goodwin, *Our Early Artists*, Cape Town, 1946, 20 pp., text figs.

<sup>34</sup> C. van Riet Lowe, 'Prehistoric Rock Engravings in the Krugersdorp-Rustenburg Area of the Transvaal,' *S.A.J.S.*, Vol. XLI (1944), pp. 329-44, 8 text figs.

<sup>35</sup> B. D. Malan, 'Excavation Method in South African Prehistoric Caves,' *S. Af. Mus. Ass. Bull.*, December, 1944, 8 pp.

<sup>36</sup> A. J. H. Goodwin, *Method in Prehistory*, Handbook No. 1, S. Af. Arch. Soc., 1945, 184 pp., 8 text figs.

## REVIEWS

### AMERICA

**Mexico South: The Isthmus of Tehuantepec.** By Miguel Covarrubias. London (Cassell), 1947. Pp. xxviii, 427, viii. map and illustrations. Price 45s.

The Isthmus of Tehuantepec is a happy choice for a localized study of Mexico, for it is intimately concerned with all the great themes of that country. Archaeologically it is the meeting place of two great pre-Conquest civilizations, the Maya and the Nahuatl. It may indeed be the site of that first development of maize from a wild mountain grass on which the whole agricultural system of America was founded. In the colonial period it early attracted the attention of Hernán Cortes, who had estates there, and from the eighteenth century onwards it was constantly in the limelight as one of the natural links of communication, and potential sites for a canal, between the Atlantic and the Pacific. In the events of Mexican history down to the Revolution it has played its part. It is the home not only of the disappearing remnants of conservative and unadaptable tribes such as the Huaves, but also of the Zapotecs, perhaps the most progressive and quick-witted of all Mexico's Indian tribes, and that which has, on its *mestizo* fringe, achieved the most fruitful synthesis with the conquering Spaniard.

Señor Covarrubias is well qualified to write about the Isthmus. For years it has been his favourite haunt, and he has taken more than a merely dilettante part in Stirling's excavations at La Venta and other Isthmus sites. He has cast his book in a highly personal form, a combination of learned local monograph and travel book of personal reminiscence. It is magnificently produced and illustrated.

To the anthropologist the two sections of greatest interest are those on archaeology and on the life pattern of the modern Isthmus Zapotecs, living in and around the towns of Tehuantepec and Juchitán. The discovery of the culture labelled Olmec has transformed the perspective of Mexican prehistory. Whether or not the three objects found outside the Maya area bearing bar-and-dot dates earlier than any found within that area are sufficiently authenticated (and Professor Morley is of the contrary opinion) the finds at La Venta and Tres Zapotes represent a culture completely independent of the Maya based on a jaguar-totemism, which now displaces the Toltecs from such sites as Cholula and even Teotihuacán. The study of the Isthmus Zapotecs is almost an independent monograph and a model of its kind, complete with texts in the vernacular and careful drawings of all kinds of artifacts. ROIDNEY GALLOP

### ASIA

**Earthbound China: A Study of Rural Economy in Yunnan.** By Hsiao-Tung Fei and Chih-I Chang (revised English edition prepared in collaboration with Paul Cooper and Margaret Park Redfield). University of Chicago Press, 1945. Pp. xviii, 319. English price 21s.

**The Golden Wing: A Sociological Study of Chinese Familism.** By Lin Yuch-Hua, with an introduction by Raymond Firth. London (Kegan Paul), 1948. Pp. xv, 234. Price 16s.

**A Chinese Village: Taitou, Shantung Province.** By Martin C. Yang, with a foreword by Ralph Linton. London (Kegan Paul), 1948. Pp. xvi, 275. Price 18s.

Each of these three books provides a detailed sociological analysis of a particular locality within the vast field of rural China. The quality of data and the technique of presentation vary greatly, but each book is in its way complementary to the other two. Each locality concerned is in its own way very 'typically' Chinese and the three sites are at the three corners of the map of China. But once we penetrate beyond the superficial we find great contrasts, not only in the initial (traditional) systems of social-economic organization that are described, but also in the response which these different communities have made to the stress of modern changing circumstance. Of these contrasts Professor Fei in particular is acutely aware.

Massive compilations of statistics such as those of J. L. Buck (*Land Utilization in China*, Shanghai, 1937) can have little value until detailed sociological studies such as these have provided an outline of the main variations of behaviour that need to be considered.

*Earthbound China* is concerned with three villages in the mountains to the west of Kunning. It is the product of detailed field research carried out under conditions of fantastic difficulty during the period 1938-1943. The presentation is quantitative rather than statistical in a strict sense. The authors limit their theme to a detailed analysis of the control of land, labour and production in each of the three villages studied. Readers of Professor Fei's earlier work, *Peasant Life in China* (1939), will know that they can expect a sociological insight of the highest order and they will not be disappointed. The original Chinese work was in three separate parts, each dealing with a single village (p. x), and the process of translation and synthesis into a single volume has somewhat disturbed the logic of presentation. The quantitative detail is often most suggestive, but certain figures, especially those relating to land areas and crop yields, should be treated with caution. The vagueness of many Chinese units is stressed on pp. 28-30, but this vagueness is often lost sight of in later tabulations. A disastrously misleading footnote on p. 28, repeated on p. 50, is probably due to a misunderstanding by the American editors. The reader is given to understand that a *picul* is a weight (not a volume) of 110 lb. Actually it is perfectly clear from various contexts that the authors intend the term *picul* to denote a measure of volume; in fact it would appear to be a 'bushel' measure containing 45 lb. of unhusked paddy or 67 lb. of husked rice (p. 51). But even with this correction the yield figures given on p. 71 appear to be impossibly high, and the statement (p. 158) that 30 *piculs* of unhusked rice is the equivalent of 6.6 *piculs* of husked rice makes no sense at all.

But, in any case, however questionable may be the absolute values of the numerous figures in this book, they do make possible a genuine quantitative comparison of the state of affairs in the three villages studied. The first of these villages, Lur'sun, was a simple agricultural community dependent wholly upon the production of rice, broadbeans and small livestock; the second, Yit'sun, supplemented an inadequate rice economy with a rural handicraft (basketry) and a semi-industry (papermaking); the third, Yur'sun, was experiencing boom conditions as the result of a new motor road and a new market for vegetables. These three villages provide the field laboratory for a fascinating study of the varieties of response that are possible, even within quite a small area, to the stress of changing economic conditions. The analysis for the most part is admirably detached, though Professor Fei's own preferences for a decentralized economy linked to rural co-operatives obtrude here and there. It is refreshing to find a leader of modern Chinese thought who is prepared to recognize the good as well as the evil in the old order; it is to be hoped that he will not promptly be labelled a reactionary on that account.

In comparison the other two books under review are lightweight. Both rate as impressionistic ethnography rather than documented sociological study; both manage to give rather a false impression of simplicity and orderliness to the face of changing China. This arises partly from the particular sociological dogmas favoured by the authors concerned and partly from the form of presentation. Professor Lin writes of his home village in Fukien, Dr. Yang of his home village in Shantung. Both are expert but somewhat inhibited accounts. Both books seem to have been written in America on the basis of a general recollection of the home scene rather than as the outcome of specific research. Generalizations thus come too easily. Lin has a concept of social equilibrium (Chap. XXI) which could, I think, only be maintained at a very superficial level of analysis; Yang (p. 132) seems to have a naive faith in the old Lancashire proverb about 'four generations from clogs to clogs.' The remembered facts fit too perfectly into the balanced symmetry of such cyclic theories of social process. Both authors are evidently embarrassed by the need to discuss the behaviour of their relatives. Yang fails to solve this difficulty, and while his descriptions of routine are interesting, all discussion of person-to-person relationships is generalized to the level of 'a woman and her husband's younger

brother have a free and easy relationship' (pp. 54-72). Lin, on the other hand, ingeniously presents his material in the form of a novel. This device avoids embarrassment but is aggravating to the serious reader, who cannot now distinguish between fact and fiction.

The fundamental economic problems which form the central theme of Fei and Chang's book are lightly passed over by both Lin and Yang and one might at first suppose that changing conditions had introduced here no critical struggle for the control of the means of production. Lin finds nothing remarkable in the fact that most of the land in his type Fukien village is owned by absentee landlords (p. 14). Yang (p. 16) at first assumes that each family owns its own land, but later (p. 133) recognizes the existence of a complex credit structure, which by the end of the book (p. 230) has become critical. This author has specialist qualifications as an agriculturalist and it is a great pity that in the earlier chapters more data could not have been given on the economic aspects of farming procedure. Figures, such as Fei has attempted, which would indicate the relative efficiency of farm labour in different types of activity might have been particularly valuable. The most useful and original sections of Lin's book are those which relate to the organization of small-scale commerce and the riverine rice trade in the Foochow area. The description here is fascinating and clearly based on detailed first-hand observation.

Although the three books are in no sense comparable in quality, anyone who reads all three will obtain a very good overall impression of the variety and complexity of the problems that face the present-day Chinese farmer. In the background one sociological question of fundamental importance remains unanswered: What is the nature of the class structure of Chinese society? Is it, or is it not, comparable with that of the West? These authors all recognize the widespread incidence of a landlord-tenant relationship, but, like other writers on China, they tend to assume that, because of the high social mobility and rapidly fluctuating fortunes of individual families, the 'landed gentry' are not comparable as a social class to their aristocratic counterpart in Europe. High social mobility, however, is by no means an exclusively Chinese characteristic, nor do fluctuations of personnel necessarily affect the class stratification of the society considered as a continuing whole. In China, just as in eighteenth-century rural England, the crucial control of the magistracy is the perquisite of the land-owning group. From this point of view an adequate analysis of Chinese social structure still needs to be written.

E. R. LEACH

**Artist in Unknown India.** By Marguerite Milward; with a foreword by Professor H. J. Fleure. London (Werner Laurie), 1948. Pp. xiv, 274, with 98 illustrations and map. Price 21s.

**146** This is a popular account for the general reader of Mrs. Milward's trials and triumphs as a sculptress in search of typical heads among certain primitive tribes and backward classes of India. Her chatty narrative combines two tours carried out in the seasons 1935-1936 and 1937-1938, and ranges from Bombay through the Deccan to Madras, the Nilgiris and Travancore; back through the Central Provinces and Bastar State to the Khondmals, Chota Nagpur and Jamshedpur; and finally to the Naga Hills and Nepal. To few, if any, has it been given to visit in rapid succession some forty primitive communities amid some of the most picturesque scenery in India. Her illustrations include thirty-two photos of sculptured heads, and with her snapshots and drawings form a lively introduction to the manner of life of the twenty-five million Indian aboriginals.

Mrs. Milward does not set out to write for anthropologists, and the assistance she obtained in selecting types, and in making brief notes of customs, varied from place to place. The artist in her predominates, but she took head measurements of her models and has led the way in such three-dimensional recording of Indian types. This and her recent gift of one hundred and three original plaster casts, her whole collection, to the Cambridge University Museum of Archaeology and Ethnology form a valuable service to anthropology. A critical revision of her text would have eliminated some mistakes and much unorthodox orthography of Indian words.

THEODORE TASKER

## EUROPE

**Juvenile Delinquency in an English Middletown.** By Hermann Mannheim. London (Routledge and Kegan Paul), 1948. Pp. xi, 131.

**147** In this painstaking study of juvenile delinquency in Cambridge during the last war, the letterpress contains little that will be unfamiliar to students of the subject, and few of the thirty-seven tables seem calculated to serve any useful purpose. RAGLAN

**Folk Museums.** By Iorwerth C. Peate. University of Wales Press. 1947. Pp. 63 with 11 plates. Price 2s. 6d.

**148** Dr. Peate puts the case for the folk museum in these words (p. 27):

'When, in 1946, I visited these three museums in turn [the folk museums of Sweden and Norway], the experience was wholly ineffaceable. . . . The living past of Norway took shape before me and I felt that I understood its traditions and the very foundations of its society. It is indeed difficult to imagine the effect of such a museum upon the members of the nation which it serves. It is certain—and many Scandinavians so testify—that it is incalculable. To quote one of them, "It is a deep well of living waters invigorating the soul of the nation".'

The folk museums of Scandinavia are described and illustrated, and we are then given the plans for the creation of a folk museum at St. Fagan's Castle, near Cardiff. It is to consist of two parts, an essential feature, the author stresses, of a Folk Museum: one part will include a modern block of buildings for the scientific exhibition of the materials of Welsh life and culture; the other will be an open-air section where Welsh buildings can be seen in their natural settings. To anyone who has seen something of the work of Dr. Peate and his colleagues at the National Museum of Wales, there can be no doubt as to the success of this new venture.

The book is translated from the Welsh, but to my ears the words 'folk life' and 'craft workshop' seem to belong too exclusively to the country and to country people. In my opinion a museum of national life should demonstrate and interpret the life of towns, as well as that of the country; it should deal with the development of manufacture and shopkeeping, as well as with agriculture and the country crafts. Thus, a good deal of space might be devoted to such trades as that of the millwright, whose immediate inheritors

are the vast population of engineers and 'machine-minders,' or to the business of butcher, banker and draper, from whom are derived the great shops and offices in which so many are fated to spend their working lives today.

From my experience, the working man and woman is immediately interested in an exhibit that shows the evolution of his particular occupation, and it is these people that a folk museum should aim to attract. R. A. SALAMAN

**My Caves.** By Norbert Casteret (translated by R. L. G. Irving). London (Dent), 1948. Pp. 172, with index and 26 illustrations. Price 15s.

**149** This book, well translated and with excellent photographs, is of great interest. Despite the fact that the author calls himself an amateur, his knowledge of the underworld, gained in thirty years of exploration, is impressive. He writes with an enthusiasm which carries the reader with him into the galleries and caverns where the elemental quiet is disturbed only by the roar of underground waterfalls and the ephemeral footsteps of men. M. Casteret avoids drawing conclusions from his carefully presented observations and facts, leaving these to the scientific knowledge or imagination of his readers. The technique of cave-exploration is explained: the simple method of marking the return route, the negotiation of low tunnels, the art of wall-climbing, the use of collapsible boats and the means employed for reaching the bottom of potholes.

The author tells of the work done in tracing the course of subterranean rivers, and in particular describes an experiment which resulted in the identification of the main source of the Garonne. Here he stresses the importance of developing hydrogeology and geophysics. The chapter on equipment is admirably detailed, and he ends the book with a remarkable account of three years of bat-watching: he chose a cave in the Pyrenees used by these mammals and spent long hours of patient observation, the fruits of which are a delight to read. After discussing the seasonal migrations, he remarks that it is as yet unknown why they migrate at all. This is typical of the charm of the book, which arouses imagination and curiosity.

MARGERY ROSS

## MISCELLANEOUS

**Witches and Fishes.** By Sir Hesketh Bell. London (Arnold), 1948. Pp. 187, illustrated.

**150** This is a pleasantly written book of jottings by a distinguished former colonial governor. It contains chapters on 'Fetishism' and 'Obeah,' but they are of little scientific value.

RAGLAN

**Hallmarks of Mankind.** By Frederic Wood Jones. London (Bullière, Tindall and Cox), 1948. Pp. vi, 86, with 23 illustrations. Price 10s. 6d.

**151** This challenging, learned and stimulating book is highly recommended to the attention of all those who are interested in the question of man's origin and evolution. As Bertrand Russell once remarked, it is a good thing from time to time to hang a question mark on those of our beliefs which we take most for granted. For the last thirty years Wood Jones has been the most persistent and trenchant hanger of question marks on almost every aspect of the Darwin-Huxley-Haeckel account of the origin and evolution of man. In the present volume, which contains the subject matter of two lectures, he endeavours to show that man is an extremely primitive type, and that while he is more primitive in basal structure than the living monkeys and apes, man 'has his own remarkable structural specializations that distinguish him from all other Mammals and appear to be his very ancient hallmarks.' On the face of them most students of these matters would agree that these contentions are probably sound. The author, however, has never learned

that it is frequently fatal to a sound position to make a wrong use of it. The general position may or may not be granted, but when the author makes statements which can be proved wrong or incomplete, when his illustrations of the supposed normal anatomical relationships (fig. 17 of the premaxilla, for example) in man can be demonstrated to be wrong by the production of one actual specimen after another, when he conveniently chooses to ignore the work of 'others' which happens to be contrary to his own beliefs, he does his position serious and unnecessary harm.

M. F. ASHLEY MONTAGU

**Sigmund Freud: A Presentation of his Theory, and a Discussion of the Relationship between Psychoanalysis and Sociology.** By W. Hollitscher. London (Kegan Paul), 1947. Pp. viii, 119. Price 8s. 6d.

**152** The author of this epitome of Freudianism disarms criticism by saying at its end: 'This little book will fulfil its purpose if social psychologists use it to make a first acquaintance with analytical theory.' It has been his policy, in presenting Freud's basic psychological conceptions in a concise and clear-cut form, to refrain from quoting any of the classical Freudian applications of his theory to sociology and anthropology. The matter is presented so briefly and of necessity so dogmatically that the book will prove more valuable as a means of defining psycho-analytical language for workers accustomed to other disciplines than to persuade them of the validity of many of these theories.



For this his own somewhat rigid acceptance of Freudian dogma is at times to blame. For example, dwelling on the castration complex, he says: 'The whole experience is definitely the most fateful experience and the greatest problem of early life, but it is so completely forgotten by the individual himself, that its reconstruction in the course of psycho-analysis always meets with the patient's most stubborn incredulity.' This stubborn incredulity has come in recent years to be shared by many analysts as well as the derided patient.

There are other times when the baldness of his statement betrays that most dreaded weakness of psychologists, the absence of a sense of humour. One suspects this, for example, on encountering the following description of the way in which a woman chooses her husband: 'Her original insatiable desire to possess a penis may be satisfied if she succeeds in expanding her love for the organ to the entire man who bears it. . . .'

The most interesting and least dogmatic chapters are those in which he discusses the influence on personality development of our contemporary sexual morality, and the concluding chapter in which he reconsiders the classical reproach against Freudianism, namely that in representing all arguments as the mere rationalization of unconscious desires, psycho-analysis has undermined the validity of its own theoretical conceptions. This is a philosophical objection to the early Freudian scheme which he does not, in my opinion, adequately answer; but his discussion is valuable in drawing attention to the fact that deep psychology must take reasonable behaviour into account no less than instinctive drives. Freud himself, of course, acknowledges in practice the higher significance of rational behaviour in his therapeutic maxim, 'Where Id was let Ego be.' It is a feature of the later development of psycho-analysis that greater attention has been paid to deliberate and adult components of

behaviour and less to the infantile and libidinous origins of thought and behaviour.

G. M. CARSTAIRS

### The Analysis of Political Behaviour: An Empirical Approach.

By Harold D. Lasswell. *International Library of Sociology.* London (Kegan Paul), 1948. Pp. x, 314. Price 21s.

**153** The psychological and sociological approach to the problems of political science has involved a fresh application of statistical methods to political movements and situations. In this movement Professor Lasswell of Yale University has taken a leading part, well illustrated by this selection from his published work. There are three main problems here: (1) how to integrate science, morals and politics, for example in the long essay on legal education and public policy, a frontal attack on current methods and theories of professional training; (2) how to analyse politics, with respect to 'political elites' and the technique of revolution and propaganda, and to 'political attitudes,' illustrated by Hitlerism as a response of the lower middle classes to continuing insecurity, and by a suggestive examination of radio as an instrument for reducing personal insecurity; (3) how to observe and record politics, with the function of the participant observer, official or client; and of self-observation, with some very entertaining examples from American business life. There is also a suggestive examination of the 'prolonged insight interview' of Freud, and a method of analysing public attention, from the space allotted by newspapers in other countries to items referring to the United States.

Much of all this is hard reading, and all the more worthy of careful attention. Professor Lasswell stands at least a generation ahead of most of his co-workers in political science. Whether they will catch up with him, or be diverted into other lines of advancement, only the future can show.

JOHN L. MYRES

## CORRESPONDENCE

### Head-Deformation in the Near East

**154** SIR,—Mrs. Margaret Hasluck calls attention (MAN, 1947, 143) to the practice of artificial cranial deformation in Asia Minor and warns physical anthropologists in other areas of south-western Asia to take this widespread custom into consideration.

In this connexion I should like to call attention to the Yezidis of northern Iraq, often called the 'Devil-Worshippers,' but rather the propitiators of Satan. The western group living near Jebel Sinjar possess extremely long heads accentuated by the Arab type of rope cradle. However, the Yezidis of the Sheikhan district are considerably richer and according to them are therefore able to use the Armenian type of cradle (*cf.* Isabella L. Bishop, *Journeys in Persia and Kurdistan*, London, 1891) in which the child is strapped with a hard pillow; this flattens the occipital region. Since the room in which the child is kept contains no window, light from the doorway tends to attract attention and unless the cradle is turned completely around at regular intervals the back of the head becomes deformed asymmetrically. Among the Yezidis of Sheikhan, especially in Bashiq and Bahsany, this feature can easily be recognized.

Thus, the Yezidis of Iraq show considerable divergence in head form although all other anthropometric criteria tend to place them in one racial group.

During 1934 I measured fifty-one Yezidis in Tbilisi (formerly Tiflis). No artificial cranial deformation was observed. However, among nineteen ancient crania from Nalchik in the north Caucasus there were extreme types of deformation.

A few examples of head-deformation were observed among the Assyrians encamped at Hinaidi and Mosul; their homeland lies in the Hakkari mountains of eastern Anatolia or near Urmia (Rezayeh).

I have not observed artificial cranial deformation among the Beduns of the North Arabian or Syrian Desert; the Marsh Arabs, Sulubba (Sleyb), Jews, Turkomans, Subba (Mandaeans), Arabs of the Kish area, or Gypsies (Nawar or Kawliya) of Iraq; the Lurs of

Pusht-i-Kuh, dwellers on the Iraman Plateau, and Jews of Isfahan in Iran; and the Beduns of Sinai.

Observations on artificial cranial deformation in south-western Asia to supplement the standard work by Dingwall would be most welcome.

HENRY FIELD

Washington, D C.

### Construction of a House roofed with Corbelled Domes in Southern Turkey. (Illustrated)

**155** SIR,—The modern village of Haran occupies the site of Roman Carrhae, on the plain of the Upper Belikh river, about twenty miles below Urfa. Each house there is capped by a number of high domes, some having two, others as many as six. We saw one of these houses in course of construction in the summer of 1947. The only materials were baked bricks, excavated from the ruins of Carrhae, mud mortar, and a few limestone blocks, also salvaged from the relics of the Roman city.

The walls are first laid oblong, with small lintelled windows, and doorways generally bridged with a limestone lintel, but sometimes arched. Then the house is divided into two or three square compartments by brick arches. These are laid on temporary supporting walls of bricks, which are removed once the mortar of the arches is set: this takes about half a day.

The domes are then laid each with a base diameter of about 3½ metres. In the corners, by the dividing arch, large tiles, and sometimes limestone slabs, are laid overlapping, to form simple pendentives to support the dome. The outer corners are bridged with large limestone blocks, and the dome rests directly on these. Each dome overlaps half the dividing arch, and rests directly on it, as a vertical section cut in the side of a cone leaves the arc of a circle.<sup>1</sup>

The dome is corbelled, the bricks being laid flat, and each course slightly overlapping the one below. No centering is used. Mortar and bricks are laid by a single builder, who moves backwards round the walls of the growing dome. He is supplied with bricks and mortar by assistants, who throw them up from below;<sup>2</sup> and he keeps



up a constant chant, each brick being laid with a call to heaven.<sup>3</sup> It takes about three hours to build a dome. It may be completely closed with the last slabs, or else a small round hole is left as a smoke vent. The slope of the finished dome is  $50^{\circ}$  to  $60^{\circ}$ .

This type of house is found in villages throughout North Syria, but stops abruptly—as does the Arabic language—at the scarp which marks the edge of the South Turkish plateau. Sun-dried bricks are generally used, the supply of antique kiln-dried bricks at Haran

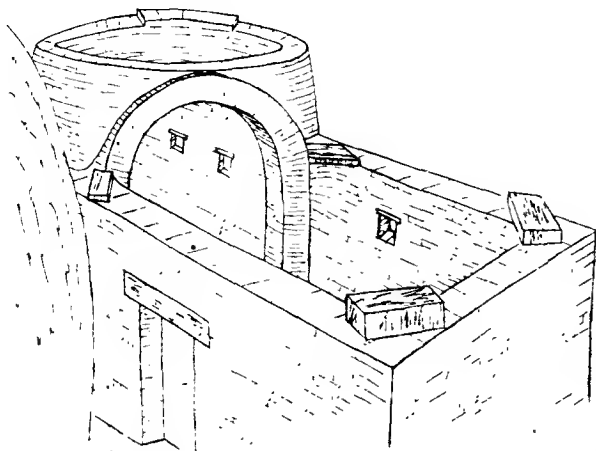


FIG. 1. ISOMETRIC DIAGRAM OF AN UNCOMPLETED HOUSE, BUILT AGAINST THE RUINS OF ANOTHER

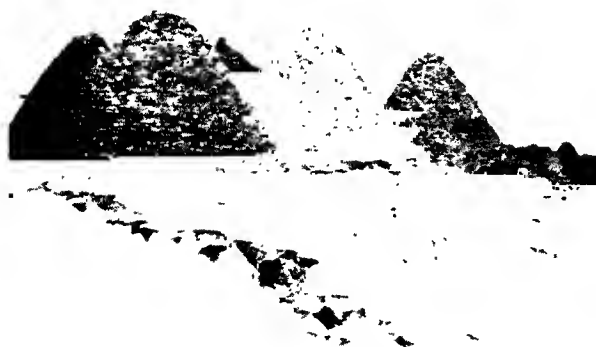


FIG. 2. HOUSE ROOFED WITH CORBELLED DOMES  
*Haran, September, 1947; photographs by W. C. Brice*

being, of course, only local. The region is treeless, hence the suitability of this sort of roof, which has no need of timber, even for temporary centering

W. C. BRICE  
*Jesus College, Oxford*  
AHMET DÖNMEZ  
*Turkish Directorate of Antiquities*

#### Notes

<sup>1</sup> Sir John Myers points out that in this case it is actually a hyperbola, as the profile of the domes is not quite conical but slightly convex.—ED

<sup>2</sup> The bricks are passed by a chain of helpers, outside the house; the mortar is skilfully thrown up with a shovel, from inside the room, through the ever narrowing top of the dome

<sup>3</sup> 'Yallah, walid hayr! . . . Yallah, amn shuf! . . .', and so on, in trochaic metre.



FIG. 3. JUNCTION OF DOME AND TRANSVERSE INTERNAL ARCH

*The adjacent dome will overlap the same internal arch and intersect the profile of this dome.*



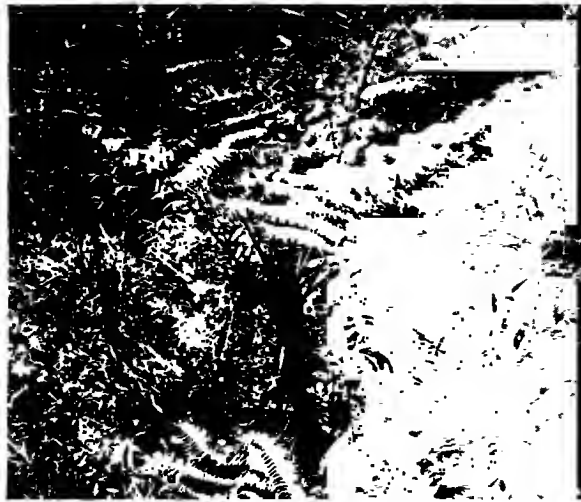
FIG. 4. INTERIOR OF A CORBELLED DOME IN COURSE OF BUILDING

*On the left it rests on a large block of stone laid across the square corner of the house walls. On the right, it rests on an arch and a simple corbelled pendentive.*



FIG. 5. MASON COMPLETING THE CORBELLED DOME  
*Note the corbelled pendentive, built to accommodate the next dome.*





(a) The tree fern is chopped down.



(b) The tree-fern pith is cut with a long knife.



(c) The pith is pounded with a baton-like implement.



(d) and (e) The pulped pith is buried in leaves to macerate.

THE PREPARATION OF TREE-FERN SAGO BY A SULUNG IN THE DAFLA HILLS

Photographs by C. R. Stonor, 1948

# ON THE USE OF TREE-FERN PITH FOR SAGO IN THE ASSAM HIMALAYAS\*

by

C. R. STONOR

**156** Early in 1947 I received from the Political Officer, Abor Hills, Mr. P. S. James, M.B.E., a specimen of a plant known in that area as *tacheh*, and described by him as being used for food in times of exceptional scarcity. I identified it as a species of tree fern of the genus *Alsophila*: and when in October of the same year I had occasion to tour in the Abor Hills, I made enquiries from the Minyong Abors as to the use of the plant. Three types are recognized, of which only one is regarded as edible. All three are very similar in outward appearance, and the edible species is said to be the smallest. The non-edible forms are said to be bitter in taste.

Among the Minyong Abors (and probably also among adjacent tribes) the tree ferns are cultivated, being grown in small areas of forest which are too steep or too rocky to be reclaimed for the growing of cereal crops. Small plants are transplanted into these areas, which are individually owned, and may cover up to an acre or more, the main undergrowth being kept roughly cleared to allow freedom of growth; otherwise the ferns receive no attention. I was told that a plant takes an average of forty years to mature sufficiently for use from the time it is transplanted; so that a man normally plants for his children or even his grandchildren, who will benefit in seasons of scarcity after his death. The tree ferns are of very real importance as a reserve of food, and wilful theft or damage of another man's plot is punished with a fine: in extreme cases it can result, at least in theory, in the culprit's children being sold into slavery. The *tacheh* is never eaten except in times of famine; it was used in the northern areas of the Abor Hills in 1946-1947 when the cereal crops failed owing to plagues of vermin. A single fully developed tree is said to keep a man going for nearly one week.

In preparation of the sago, the trunk is cut into cylindrical sections; these are then cut longitudinally and the outer wood is removed. The pith is roughly pounded, and the coarser fibre picked out. The whole is then buried among leaves in the forest for up to twenty days to macerate, transferred to baskets, which are hung between two posts or convenient trees, and pressed to get rid of water and juices. A series of washings and strainings follows, after which the flour is sun-dried and is ready for food.

In 1947 and again in 1948 I visited the Western Dafla Hills, which lie far to the west of the Abors. I made enquiries as to whether tree ferns were used in this region. I was informed that their use is well known, both to the Daflas and to the obscure Sulung tribe which inhabits the

same area. As among the Abors, three types are recognized, and one only is eaten; it is known by the same name of *tacheh*. The plants are not, however, cultivated, but are cut straight out of the forest when wanted; this is doubtless associated with the lower cultural level of both Daflas and Sulungs as compared with the Minyong Abors. Among the Daflas, *tacheh* is entirely a reserve food, for times of famine, but among the Sulungs, who are still partly food-gatherers, it is said to be fairly frequently used under normal circumstances, although sago made from wild palms is preferred. The technique of preparation is much the same as among the Abors: the fern is cut down (Plate La) and the leaves and leaf-bases lopped off; the soft, white pith is then chopped out (Plate Lb); a convenient length of wood is shaped and one end sloped off like a chisel; a small quantity of the pith is put on a flat stone, which is held between the feet (Plate Lc), and is beaten to a pulp with the baton-like wooden implement; some leaves are put on the ground in any convenient place near at hand, and the whole mass is put on them and covered with leaves (Plate Ld and e). After being left for five or six days to macerate, it is subjected to a series of washings and strainings in a finely woven cane bag, used solely in preparation of fern and palm sago; the resultant flour is cooked by spreading it in a dry cooking pot over a hot fire.

The use of tree ferns for sago is thus known along the whole length of the Assam Himalayas; and it is interesting that it seems quite unknown in any hill areas of this region lying to the south of the Brahmaputra. I have made enquiries in the Naga, Lushai, Khasi and Garo Hills; but, although tree ferns of the same species are found in these areas, no use is made of them, and there appears to be no tradition that they ever have been used. It seems possible, therefore, that this source of sago was discovered in the Eastern Himalayas. According to J. C. Willis (*A Dictionary of the Flowering Plants and Ferns*, 1931, p. 29) the stems of this genus of tree fern are known to yield a sago. I am unable, however, to discover to what part of the world he refers or what is his original authority for the statement. In New Zealand, the pith of the nearly allied genus *Cyathea* is used by the Maori for preparation of a sago.

## Note

Professor J. H. Hutton adds the following: 'J. D. Hooker (*Himalayan Journals*, 1854, Vol. I, p. 293), writing apparently of Sikkim and Nepal, mentions that "the pulp of one tree fern affords food, but only in times of scarcity, as does that of another species in New Zealand (*Cyathea medullaris*): the pith . . . is composed of a coarse sago, that is to say, of cellular tissue with starch granules." I do not know of any other reference to its use, or remember having heard of its use by Nagas or Kukis.'—Ed.

\* With Plate L

## NOTES ON CRANIOMETRIC TECHNIQUE

by

PROFESSOR JON STEFFENSEN

*Department of Anatomy, University of Iceland*

**157** In my study of the craniology of the Icelanders (*Forntida Gárdar á Island*, Copenhagen, 1943, pp. 227-60) I found unexpected dissimilarity between early Icelandic skulls and skulls of the Norwegian Viking Age, and some resemblance between my Icelandic data and those given by C. P. Martin, in his *Prehistoric Man in Ireland* (1935), for pre-mediæval and modern Irish skulls. I therefore came in 1946 to study personally in the British Isles the interesting series of crania there from Great Britain and Ireland, and particularly to compare my measuring technique with the techniques of those workers who had measured these skulls before me. In this paper I shall deal with the pre-mediæval skulls measured by Martin when chief demonstrator in the Anatomy Department of Trinity College, Dublin. I regret not having had the opportunity of discussing the various points with him personally, as he is no longer there; many of the skulls are, however, in the Anatomy Museum of the College, where I was able to examine and re-measure them by kind permission of Professor Jamieson. Our respective measurements are given for comparison in the Table below, but before discussing

any discrepancies between them I find it necessary to offer certain comments on the dating and sexing of the material:

(i) *Skull given as 'Lismore ♂' in Martin's Table XIII*

Trinity College catalogue lists the remains of two skeletons from Lismore under the nos. 307 and 308; it states that these were all found together, and formed the subject of a paper by Prof. D. J. Cunningham and Dr. C. R. Brown who assigned to one individual (307) a calvarium, scapula d., humerus d., coxa s., femur s.; to the other (308) an os frontale, two ossa parietalia, mandibula, ulna and radius d., ulna and radius s., pelvis, femur s., first 3 lumbar vertebræ. Martin evidently disagreed as his 'Lismore ♂' consists of calvarium and mandible, and in the museum the mandible bearing the number 308 is tied on to the calvarium numbered 307. My own view is that the original grouping of the various remains is probably correct, 307 being those of a mature female, 308 of a young male; and that in any case the calvarium and mandible cannot belong to the same person.

(ii) *Six 'skulls of Norsemen,' in Martin's Table XV*

(a) One from Larne which had Viking grave goods.

(b) Two from Island Bridge, of which Martin says (p. 145): 'Three Norse skeletons from Island Bridge are in the National Museum, Dublin. One of these was found with a sword, unusually well preserved, and a dagger, but unfortunately the

COMPARATIVE TABLE OF MEASUREMENTS TAKEN BY C. P. MARTIN

Reference to Tables in C. P. Martin's <i>Prehistoric Man in Ireland</i> , 1935	T.C.D. Cat. no.	Skull Reference Origin	Max. Length (R.M. 1)		Basion-Nasion Length (R.M. 5)	
			C.P.M.	J.S.	C.P.M.	J.S.
Skulls of the People of the Iron Age (Table XII)	276	Bray	179	177	94	94
	277	"	186	185	—	—
	278	"	175	174	95	94
People of the Cranogs (Table XIII)	339	Borris-in-Ossory	203	202	111	111
	—	Lismore	177	176	97	96
Skulls of the Early Christian Era (Table XIV)	304	Dundalk	192	191	102	101
	305	"	—	—	—	—
	306	"	187.5	185	—	—
Skulls of Norsemen (Table XV)	—	Larne	187.5	186.5	104	103.5
Skulls probably belonging to Norsemen (Table XVI)	216	Liffey Tunnel	187	187	100.5	100.5
	217	"	192	191	101.5	101
	219	"	192	191	91.5	92
	297	Peterson's Lane	200.5	200	—	107
	298	"	179	178	101	100
	310	Portland Docks	192	192.5	107?	—
	—	Wellington Quay	191	190	104.5	104
Means of pairs of unqueried values			188.03 187.07		100.18 99.73	
No. of pairs			15		11	

skull was badly damaged. The two other skulls were more complete.' Johs. Boe, however, in his *Viking Antiquities of Great Britain and Ireland* (Part III, 1940, p. 60) quotes a letter written to him by Mr. J. Raftery on 11 November, 1938—three years after Martin's book was published—expressing doubt as to whether these other two skulls were Norse. Of the second grave Raftery wrote: 'I should like to add that the burial of this skeleton coincided in every particular with that of about 450 skeletons excavated by me at Castleknock, Co. Dublin, some three miles from the Island Bridge site. The Castleknock cemetery is dated to between 850 and 1000, but is probably native Irish, not Viking. . . . These remarks also seem to hold good for the first grave above.'

(c) Two from Nendrum Abbey: these were deemed Norse from their being buried in two mounds overlying graves of the Christian type, and 'as a mound is not a Christian type of grave, this almost certainly indicates that the actual burial was carried out by the pagan victors' (p. 145). I find it almost impossible to believe that pagan Vikings would bury fallen comrades without their weapons.

(d) One from Sutton: no implements were found with this skeleton, and the excavator, Mr. Stellfox, gave it me as his view that no date could be assigned to it.

Thus only one of the six 'skulls of Norsemen' can be accepted as definitely Norse, the one from Larne which had Viking grave goods. This indeed is the only reliable criterion of Norse origin. Skull type would not suffice, as there are skulls quite similar to those of the Norwegian Viking Age in series of Early Christian skulls. I have re-measured the Larne skull and fifteen others for which measurements are given in Martin's Tables XII-XVI.

I turn now to technique. In the course of my comparisons of the Icelandic with other series I have been confronted with differences in the technique of those who have recorded the comparative data too often not to realize the difficulties this creates and the great desirability of international standardization. Where the techniques used have been accurately defined, it may have been necessary to measure a character of my series in more than one way in order to compare it with various others (though this still does not make the others comparable *inter se*). But even where a definition seems adequate, and still more of course where it obviously is not, one may find a difference of interpretation or some other factor that causes bias in the resultant mean values. To realize such differences makes one more technique-conscious; to find and discuss their causes should help to prevent them. The figures obtained by C. P. Martin and myself for the sixteen skulls we have both measured will be compared with this end in view.

Concerning the technique he uses, Martin says (p. 15): 'The measurements given in the tables in this book have in general been taken as laid down by Rudolf Martin (*Lehrbuch der Anthropologie*, 1928 edn.). In a few cases I have deviated from his rules. Any such departures will be explained in this chapter.' He then gives (pp. 21-2) a list of the characters measured, with definitions.

#### AND J. STEFFENSEN ON THE SAME SERIES OF SKULLS

Maximum Parietal Breadth		Bas.-Breg. Height (R.M. 17)		Bas.-Prosth. Length (R.M. 40)		Dacryal Chord (R.M. 49a)		Orbital Br. to Dacryon (R.M. 51a)		Orbital Height (R.M. 52)		Nose Breadth (R.M. 54)	
C.P.M.	J.S.	C.P.M.	J.S.	C.P.M.	J.S.	C.P.M.	J.S.	C.P.M.	J.S.	C.P.M.	J.S.	C.P.M.	J.S.
140	139	132	131	89	89	23	23	38	38.5	34	34	23	23.5
138	135.5	—	—	—	—	21	23	38	38.75	34	34.75	23	23
139	137	126	124	91	89.5	18	19	35	36	33	33	20	20.75
147	148	135	134	—	—	—	—	46	45	36	37	—	—
143	142	129	128	93	91	20	20	40	39	31	31	28	28.5
142	142	136.5	135	95.5	94	20	19.5	38	38	33	34.2	22.5	23
137	136	—	—	—	—	21	21	36	39	35	35.2	23	23.2
140?	—	131	129	—	—	—	—	—	—	—	—	—	—
136	136.5	133.5	133	100.5	99	22.5	23.75	38	38.5	32	33	16(21)	21.75
139.2	138	134	133.5	95.2	—	19.5	—	42	39.5	34	34	21.2	—
147	146	139	137.5	96	—	21	22	42	42	30	30	24	24
142	141.5	129	127.5	91	90	18	20	38	39	31	31	21	21.5
147	146	140	139	—	—	—	21	—	—	—	—	—	—
136	136.5	126.5	126	101	99	21.5	22	38	37.5	32	32.5	24	24.5
136	135.5	126	125	—	—	—	—	—	—	—	—	—	—
144	143	134	132	96	94	25	23.2	40	40.5	36	36.75	23	24
140.90		132.25		94.63		20.67		39.38		33.15		23.15	
140.17		131.04		93.19		21.03		39.33		33.54		23.58	
15		14		8		10		13		13		10	

Of these characters, apart from four ascribed to Keith, only one is expressly stated to differ from those defined by Rudolf Martin. Others however do so. Thus C. P. Martin makes orbital height a maximum instead of making it bisect orbital breadth (maxillofrontale to ectoconchion) as R. Martin does. Again, in measuring 'maximum parietal breadth' he differs from R. Martin who measured maximum breadth on either parietals or temporals. To those characters in our table for which his definitions are not inconsistent with R. Martin's (though in some cases less complete) the latter's numbers have been attached. The means given at the foot of the table are based only on those skulls for which we have each given an unqueried measurement of the character; nasal breadth for the Larne skull has been omitted because C. P. Martin's figure is obviously due to a slip.

It will be seen that C. P. Martin's means exceed mine for maximum length, maximum parietal breadth, basion-nasion length, basio-bregmatic height and basion-prosthion length. In trying to account for these discrepancies I eventually succeeded in identifying as one probable cause an assumption very liable to trip up the unwary anthropometrist: the assumption that his instruments measure correctly.

The laboratory assistant, who had been in the Anatomy Department at Trinity College in C. P. Martin's time, gave me the instruments he used: a Flower's craniometer, a pair of spreading calipers (by P. Hermann, Zürich), and two small pairs of calipers, one with straight points, the other with points bent outwards. Measurement with the curved arms of the craniometer, I found, gave slightly larger readings on the craniometer scale than did the tip-to-tip distance measured against a separate scale; the maximum difference was about 1.5 mm. The spreading calipers, which I had used for the above five diameters, were found to measure correctly. Presumably C. P. Martin measured these characters with the curved arms of the craniometer. The error thus caused may not however account for the whole of the excess of his means over mine, an excess of 0.5 per cent. for maximum length, maximum breadth and nasion-basion length, 0.9 per cent. for basio-bregmatic height, and 1.5 per cent. for basion-prosthion length. In the case of the last measurement a further factor causing excess might be the rather broad flat surface in which the curved arms of the craniometer end. R. Martin, who prescribes the spreading calipers for basion-prosthion

length, points out that the sliding calipers cannot be used where the central incisors are still present. One may add that even where the latter have been lost *post mortem*, and thus present no obstacle to contact, pronounced jugæ alveolaria may cause the surface on each side of the midline to project more than the latter, and prevent the flat-ended craniometer from resting on prosthion.

Differences between our respective figures for nose breadth suggest that here too the explanation lies with the instruments used. Apart from the few cases in which they agree, C. P. Martin's values are all 0.5 to 1 mm. smaller than mine (true also of the Larne skull if, as was doubtless the case, he read the scale by a slip as 16 when it registered 21). This suggests that he used the calipers with outward-bent points, and thus obtained the inside diameter of the aperture instead of the breadth between the edges of the maxillary processes. The latter is the nose breadth defined by R. Martin, with straight-pointed calipers to measure it: these I used.

For another character, orbital height, where I used these calipers and C. P. Martin probably those with outward-bent points, his choice would be better suited to R. Martin's definition of orbital height as an inside diameter ('sogenanntes Mass im Lichten'). He did not follow R. Martin's definition entirely, for, as already mentioned, whereas orbital height is taken by the latter midway along orbital breadth to maxillofrontale, the former took it where it was a maximum. The fact that my values are on an average somewhat in excess of his suggests that my use of the straight-pointed calipers (as prescribed) gave less accurate results than his presumed use of the calipers with outward-turned points.

I can suggest no technical difficulty to account for the difference between our values for the dacryal chord, though it is obvious that observational differences of this order on so small a dimension would invalidate comparisons between the data of different observers on different series. Orbital breadth to dacryon gives smaller differences except for the Liffey Tunnel skull (2.5 mm.): whether our observations on this character could in general be reliably compared would be made clear only by a longer series of test measurements than the thirteen in the table.

The above notes show clearly enough how important it is that the study of comparative data of this kind concerning the various characters used in anthropometry should become much more general.

## ROYAL ANTHROPOLOGICAL INSTITUTE PROCEEDINGS

**Kahgyudpa: The White Sect of Lamaism.** By Professor Li An-che. Summary of a communication to the Institute, 16 November, 1948

158 Lamaism is the popular but inappropriate term for Tibetan religion, because the Tibetan priests are called in their own language 'lamas.' This religion includes (a) the pre-Buddhistic Bon or the Black Sect; (b) the Ningmapa or Red Sect (the early

form of Buddhism as introduced into Tibet before its destruction by King Langdarma, A.D. 837-842); (c) the Sakyapa or Multiple-Coloured Sect, a revival of Tibetan Buddhism; (d) the Kahgyudpa or White Sect, contemporaneous in origin with the Sakyapa but later in development of its temporal power; and (e) the Gelugpa or Yellow Sect founded by Tsongkhapa (A.D. 1358-1419). With the exception of Bon, all the other sects are Buddhist. With



the Yellow Sect, which is also known as the Reformed or Established Church, in temporal power now, the Red Sect is referred to as the Unreformed Church and the Multiple-coloured and White Sects are considered as semi-reformed.

It is a common misconception to consider Tibetan Buddhism especially debased because it has been influenced by *Bon*, the native Tibetan faith. But nothing could be farther from the truth. In fact it is the other way round: in order to survive under the pressure of the intrusive culture of Buddhism, *Bon* has adapted itself to Buddhism to such an extent that they differ only in form and terminology. For practical purposes it is safe to take *Bon* as one of the sects of Tibetan Buddhism. The peculiarities of Tibetan Buddhism should not necessarily be attributed to Bonist influence, but rather to the late stage which Buddhism had reached in India when it was introduced to Tibet. The Buddhism of the seventh or eighth century A.D. in India was certainly more colourful than its primitive form immediately following the Buddha five centuries before Christ. Other differences between Tibetan Buddhism and the same faith elsewhere may be accounted for by geographical conditions. For example, the Tibetan monks or lamas eat meat while most Buddhists elsewhere are vegetarians.

Whatever the difference, the study of Tibetan religion from the anthropological point of view is important because it penetrates every aspect of life in Tibetan and Mongolian culture areas. Of the three major Tibetan culture areas, Tibet proper, Kham or Sikang, and Amdo or Kansu-Kokonor-Szechwan border, the speaker spent three years in Amdo (1938-1941) and six months in Kham (autumn, 1944). He has elsewhere published preliminary reports on the other sects (for *Bon* see *Southwestern J. Anthropol.*, Spring, 1948; for *Ningmapa* see *J.R.A.S.*, October, 1948; for *Sakyapa* see *J. W. China Border Research Soc.*, Series A, 1945; for *Gelugpa* see 'A Lamasery in Outline,' *J.W.C.B.R.S.*, Series A, 1942). The *Kahgyudpa* or White Sect of Tibetan Buddhism is the least known of the sects in Western literature.

According to the followers of this school in Bhutan, the founders, such as Marpa and Milarepa, wore white robes. For this reason they were called the 'White Ones,' from the word *dkar*, 'white.' The white robe was in ancient Tibet the distinctive garb of the Yogi ascetics, especially those who were adepts in the art of generating internal heat called *gtum-mo*. However, the word *dkar* in course of time gave place to *bka* which means 'word,' 'utterance' or 'command.' *Kahgyudpa* (*bka*-*brgyud*-*pa*) then means 'word-line-ones,' or the line or succession of those who transmit the words or teachings of the Masters. Who were the Masters? Those, some would say, who transmitted the teachings of the Buddha, which had never been committed to writing and which were passed orally from Master to disciple. But most *Kahgyudpas* would ascribe to the mystic beings the first communication of these teachings to a human aspirant.

There are two independent schools of the *Kahgyudpa* and each has many branch schools. The first transmits the various doctrines which the *Dakinis* (Mother Fairies) imparted to Khyungpo (1002-1064): the second, the teachings which Tilopa, a Bengali ascetic about A.D. 975, received from Vajradhara ('Thunderbolt-holder') and which he passed to Narota (Naropa or Naro), janitor of the famous Indian monastery of Nalanda, who died about 1039. By Narota the teachings were handed to his Tibetan

disciple Marpa (1012-1096). The line of Khyungpo is known as *Shangpa Kahgyud*, that of Marpa as *Dagpo Kahgyud*.

A native of Tibet, Khyungpo went seven times to India. On his return to Tibet, he went to Langri Thangpa (Chinese Turkestan?), Phanyul (north of Lhasa) and Upper Shang of Tsang (which together with Wei or Ü constitutes Tibet). During the three years at the last place he built 108 monasteries. The famous Samding, seat of the Lady Lama Dorje Phagmo on the shore of Yamdok lake in southern Tibet, was built by two of Khyungpo's innumerable followers, not of the *Ningmapa* School as stated by Waddell. Both Tsongkhapa and Khechub (1385-1438) or Panchen the First studied with masters of *Shangpa Kahgyud*. But the influence of this school is limited to Tsang. That Khyungpo wrote but few works may be another reason for the lack of popularity of his school in comparison with *Dagpo Kahgyud*.

The latter school as founded by Marpa and his disciple Milarepa (1040-1123) is not only well represented in other areas such as Kham and Bhutan, but also well known to all the other schools of Tibetan Buddhism, reformed or unreformed. Through the labour of Bacot, David-Neel and Evans-Wents these two masters are also better known to the West. The School name, however, came from Dagpo (1079-1153), Milarepa's disciple, who is also known as Gampowa. After his time there developed four branch schools with further subdivisions:

- (a) The direct line of Dagpo.
- (b) *Karma Kahgyud* founded by Karma Dusunikenpa (1110-1193).
  - (i) The Black-Hat sub-sect. Karma II or Karma Pakshi (1204-1283) (and not, as commonly assumed, Dalai V) originated the institution of reincarnated lamas. The Sacred Dance was established by a disciple of Karma V, a friend of Emperor Yung-Lo (1403-1424).
  - (ii) The Red-Hat sub-sect established by Togdan Gragspa, pupil of Karma III (1284-1339).
- (c) *Bahram Kahgyud* founded by Darma Wangch'ug, a disciple of Dagpo.
- (d) *Phagmo Kahgyud* founded by Phamo Grubpa (1110-1170). His line developed into a dynasty and eight sub-sects. The dynasty lasted from 1349 to 1618, to be displaced during 1618-1642 by a Karma family. A Mongol prince put the latter to an end in 1642 and gave the rule to Dalai V. The eight sub-sects are:
  - (i) *Brigung* founded by Rinchenpal (1143-1217).
  - (ii) *Taglung* founded by Krashipal (1142-1210).
  - (iii) *Khrophu* founded by Byampapal (1172- ?).
  - (iv) *Brigpa* founded by Tsangpa Gyalre (1161- ?).
  - (v) *Martshang* founded by Sherabsenge.
  - (vi) *Yelpa* founded by Yeshe Tsepa.
  - (vii) *Gyalhazang* founded by Zarpa Kaldan Yeshe-senge.
  - (viii) *Shugseb* founded by Gyergomchenpo.

These schools and sub-schools are the result of the varied emphasis on some aspect of teaching such as the wish to transcend the mundane world, the wisdom to embrace charitable aims, and the initiation into esoteric discipline.

The grades of the monks are first classified in accordance with formal learning and later in accordance with psycho-physical training.

The lecturer had observed annual Sacred Dances at Palspung and Miñag Gangkar, both in Kham.

## SHORTER NOTES

**International West African Conference, Nigeria, 1949**

**159** The International West African Conference was founded, upon the initiative of the Institut Français d'Afrique Noire, at Dakar in January, 1945, and its second biennial meeting took place (after a postponement of nearly a year) in December, 1947, at Bissao, Portuguese Guinea. At the instance of the Royal Anthropological Institute, an invitation was issued by the Nigerian Government to hold the third meeting there in 1949. A date in January was at first considered, with a view to restoring the original periodicity of the Conference, but the Hon. Editor of MAN now learns that it has been fixed for December, to allow of two full years' progress with work arising from the Bissao meeting. Much emphasis is likely to be placed on anthropology and archaeology, especially indigenous art, at this meeting. Inquiries may be addressed to the Organizing Secretary, International West African Conference, c/o Secretariat, Lagos.

**United Nations Scientific Conference on the Conservation and Utilization of Resources, May, 1949. By**

**160** Professor Sir John Myres, O.B.E., F.B.A., F.S.A.  
The Provisional Programme of this Conference gives

a world-wide classification of topics and problems, and should serve to bring together the experience of a very large number of workers in applied science.

Though it necessarily makes frequent allusions to matters of special interest to 'the less developed countries,' it nowhere contemplates directly the training or cultural development of the most vital 'resource' of all, namely the indigenous populations, who still count for a good deal in many parts of the world. Public health is envisaged in 'tropical and semi-tropical zones,' and there is a place for the 'training of scientific and technical personnel for the less developed countries' which presumably covers aboriginal education. But there are many points, especially in dealing with such natural resources as fisheries and forests, and with matters of transport, where the aptitudes and even the interests of the natives are in question. The chemist, the engineer and even the 'mechanized' farmer are only too liable to leave the human element out of account—to their own great loss in the long run. It was a wise physiologist who said 'I would rather leave my car to the care of my groom, than my horse to my chauffeur.'

But perhaps these 'humanities' will have a conference of their own, one day.

## REVIEWS

## AFRICA

**An African Aristocracy: Rank among the Swazi of Swaziland.** By Hilda Kuper. Published for the International African Institute; O.U.P., 1947. Pp. xii, 251 with 16 plates and a map. Price 30s.

**161** This is one of the most interesting accounts of the structure of a Southern Bantu people that has yet appeared. The Swazi, unlike some of the other South African tribes, have retained their political system and much of their national ritual, and continue to show pride in their regimental organization. Their political position as inhabitants of a British Protectorate in the midst of Union territory seems to have given their people an unusual sense of unity which Dr. Kuper here describes as nationhood. It is natural therefore that the author should have become interested in analysing the total social structure of this tribe and the type of integration which it has achieved.

She gives us sufficient historical background to account for the domination of the royal Dlamini clan which is such a characteristic feature of the political system. She describes what she calls the characteristic social units—the polygynous patriarchal family, the hierarchy of clans and lineages, the age grades and the territorial grouping. She shows these groups united by the rule of a king and a hierarchy of princes and local leaders; by intermarriages between lineages and clans; and by a common belief in the idea of kingship and its symbolic representation in ritual.

Dr. Kuper writes with affection for the people amongst whom she lived and worked for so long and with continual flashes of imaginative insight. Her account of the famous *ncwala* or first-fruit ceremony at which the king is annually doctored for the good of the whole tribe is likely to become a classic for its richness of detail and interpretation. In fact the whole of the ritual of kingship from installation to death rolls itself out like some continuous historic pageant. We are also given here for the first time a full description of the double rule of the Swazi king and the queen mother and the complex ideology on which it rests. The account should stimulate comparison with the situation in other Bantu tribes in which a queen mother rules side by side with a king, or at least holds a pivotal position in the political system. Other chapters that are important from an ethnographic point of view are those that deal with the organization of the royal kraal and the relative position of the king's

wives; the curious type of blood brotherhood ritually produced between the king, his half-brother and his head wife; and also the very full account of sorcery and witchcraft.

However, the book is an analysis of the social situation at the present day and one of its methodological achievements is Dr. Kuper's treatment of the European and African inhabitants of Swaziland as part of one single social structure, and her analysis of the position of new social groups, such as African teachers and clerks. Her picture of the total structure indicates the tensions which the old lineage and political systems inevitably gave rise to, and suggests some at any rate of the sources of friction in the changed situation.

From a theoretical point of view the chief interest of the book lies in Dr. Kuper's attempt to represent 'rank' as the major orientation of Swazi society. She tells us that she has been stimulated to present her material from this point of view by the work of Benedict, Mead, Linton and other American anthropologists interested in describing 'culture patterns,' and she describes rank as the dominating idea of the Swazi. Rank is the basis of authority in the political machinery of central and local government. Brothers of the king, sons, grandsons, heads of collateral lines, princesses, royal wives and innumerable other social personalities are all arranged in order of status according to their genealogical seniority within clan, council or lineage. Prestige is reckoned according to nearness of descent to the royal family.

This is an interesting experiment, but one which does not seem to have succeeded completely. Like a number of other fieldworkers Dr. Kuper has tried to give us descriptive accounts of ceremonies and institutions not yet fully described and also to work out a theoretical concept. The data she has to give us are so rich that it must be confessed that we tend to lose the thread of the argument between the stimulating opening pages and the concluding chapter. This is, I think, inevitable where one book has to serve the purpose of two.

There is also to my mind some confusion in the use of the concept of rank as an orientation of interests. The American anthropologists quoted tend to describe the culture pattern either in terms of a common personality type believed to exist and to be the product of the common experiences which the individuals in a culture pass through; or in terms of the dominating interests of the members of the

society, such as an absorbing passion for cattle or for making war. Dr. Kuper takes a more structural approach. She describes social personalities associated with different roles, e.g. of chiefs or commoners, and gives some, but not by any means all, of the ways in which this ideal behaviour is inculcated. She also describes the 'characteristic social units' mentioned above, and the means by which their activities are integrated.

But cultural or structural typology of this kind must be rigidly systematic if it is to be of scientific value. Otherwise the 'pattern' must consist of a series of imaginative leaps in the dark, or psychological hypotheses. Dr. Kuper avoids such intuitive methods, but she does not seem quite to have decided whether her 'orientation' of Swazi culture consists in their most characteristic or marked institutions, such as their age grades, kingship, and of course their hierarchy of personal privileges or 'rank'; their total social structure and type of integration, of which one of the main features is again a hierarchy of political groups and authorities based on pedigree; their prestige system associated with a definite precedence scale; the life targets of the individual; or the favourite or dominant activities or those associated with the most prestige. A more rigid analysis of the structure pattern, the activities and the values patterns might have brought order into Dr. Kuper's conclusions. As it is, she is driven by the very richness of her field data to paint a picture of Swazi culture as one which produces 'contradictions, juxtapositions, alternatives and the existence of majorities and minorities,' and the pattern, which a more superficial description of a culture may suggest, tends to disappear. The book gives us material which should

stimulate comparative work on the different types of ranked societies in South and East Africa, but is not entirely convincing as an attempt at describing rank as the orientation of Swazi culture.

AUDREY I. RICHARDS

**Zulu Woman.** By Rebecca Hourwich Reyher. *New Tech.* (Columbia Univ. Press and London, O.U.P.), 1948. Pp. xiv, 282. Price 16s.

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Mrs Reyher, journalist and author, visited Zululand in 1934 and recorded through an interpreter the life story of Christina Sibiya, one of the wives of Solomon, late king of the Zulus. The book is the story as rewritten by Mrs. Reyher. It is not an anthropological study, but it is of anthropological interest as a vivid account of conditions in a polygamous household as experienced by one of its members. Christina was brought up as a Christian and, prior to her marriage, was a teacher in a mission school. In her efforts to adjust her beliefs, attitudes and standards of living to those of the pagans among whom she had to live we have many 'sidelights on culture contact. The emotional and economic insecurity of co-wives, the malice, jealousy and bickering which characterized so many of their relationships, the occasional outbursts of brutality on the part of their husband—all these are described in detail and together constitute a contribution to our knowledge of the functioning of polygamy as it affects the women and, indirectly, the man. The book is also of value for its unconscious revelation of the character of Christina herself, and for its portrait of Solomon as drawn by one of his wives.

PHYLLIS M. KABERRY

## OCEANIA

**A Report on the Results of the Census of the Population [of the Colony of Fiji], 1946.** By John W. Gittings. *Council Paper No. 35 of the Legislative Council, Fiji.* 1947.

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This Census Report on Fiji, interesting as it is, is disappointing from several aspects. The tables are generally satisfactory from the first table, which gives an analysis of the population by race and sex, to the last two (Nos. 49 and 50) which afford a return by provinces of poultry kept by householders and the size of the flocks. The human races are classified down to the three main indigenous Oceanic races (Polynesians, Micronesians and Melanesians), and to various classes of hybrids, but there is no attempt to do the same for the poultry, a rather unexpected item in a population census, but no doubt of value—of quite as much value, probably, as the return of religion to which anyone who does not care to state his religion can return his objection to do so and be recorded merely as an objector. The chapter on religion is interesting, however, since it suggests a remarkable absence from Fiji of the animosities to which religious differences so frequently give rise.

The definitions which are to be found in the prelude to the Report include one of the word 'village,' the meaning of which is extremely obscure. It is stated to refer solely to Fijian villages, of which a complete list is given in the appendices; at any rate, it is stated to be complete. But Indians and others living separately from Fijians are included as living on lands which originally formed part of the land owned by the villages in which they are shown. It is then stated that, as there are many such cases, 'it is obvious that had the name been repeated, and placed among the names of the settlements or localities in each *tikina* (subdivision of a province) having no corresponding village name' it 'would have given a wrong impression of the true locality of such settlements and localities.' What this means may be obvious to those knowing the Fiji Islands; to the layman it is far from obvious. Perhaps it means that Fijian villages have died out and that non-Fijian settlements which bear their name are shown with the nearest existing Fijian village; but this is guesswork.

The question of race is dealt with in a practical way and though the report clearly shows little understanding of the anthropological

use of that much-abused term, the analysis of intermarriage is careful and satisfactory. On the question of birthplace, however, the returns are deficient, as while in the 1936 census Fijians returned detailed information of where in Fiji they were born, provision for this was unfortunately discarded in 1946, so that there is no record of migration within Fiji. It may well be doubted whether the records in possession of the Native Lands Commission can really yield any figures to take the place of a proper census return on this point, and it is clear from Chapter 5 that the author of the report himself had some misgivings about the omission of any proper return of birthplace.

It is interesting to see the high standard of literacy and ability to speak English attained by the Fijians as compared for instance with Indians. There is no single comparative table of occupation by race, which would have been a convenience, but the tables on examination show the Fijians supplying about half as many agriculturalists as the Indians and nearly four thousand market gardeners to 126 Chinese. In sugar-growing only 500 or so Fijians work against nearly 10,000 Indians, whereas in the manufacture of sugar they number nearly one thousand to the Indian's two. In farming generally Fijians number nearly 5,000 to a little over 7,000 Indians, while on the matter of store-keeping there are 1,000 Indians to 900 Chinese and Fijians in more or less equal quantities. Fijians supply more carpenters even than Indians and virtually all the gold-miners. Clearly there is a tendency for the various communities to specialize and to produce to some extent a sort of plural society as described by Furnivall for the Netherland Indies, but it is far from being completely symbiotic, and the Fijians hold their own in most human activities.

What is really needed now in Fiji is a proper research undertaking which would make a sociological, linguistic and anthropological survey with a qualified team of workers. Zoology and marine biology could be included with advantage, and it is a pity that the Colonial Development and Welfare plans do not include a survey of these islands before the vast remaining material is obliterated by change.

J. H. HUTTON

## CORRESPONDENCE

**The *Australopithecus* of Makapansgat**

**164** SIR,—Makapansgat Valley lies virtually in the centre of the Transvaal province about thirteen miles north-east of Potgietersrust, and four hundred miles north-east of Taung. During the past three years the fossiliferous Makapansgat Limeworks cave breccia has proved a rich source of extinct baboons (two of which are found at Sterkfontein), as well as antelopes, giraffes, rhinoceros, hippopotamus, pigs and carnivores (vide Kitching, Wells and Westphal, *S.A. Sci.*, Vol. I, 1948, p. 172, and references). Last September James Kitching, while collecting on behalf of the Bernard Price Foundation for Palaeontological Research in the University of the Witwatersrand, recovered from the same type of grey breccia, which had been clammed by me twenty-three years ago (*S.A. Jour. Sci.*, Vol. XXII, 1925, p. 454) as a human 'kitchen midden,' the posterior third of an adult australopithecine skull, presenting numerous significant humanoid features, in which it differs from the coeval Sterkfontein *Plesianthropus*.



FIG. 1. A CAST OF THE AUSTRALOPITHECUS PROMETHEUS OCCIPUT UPON WHICH THE SUTURAL PATTERN OF THE 'INCA BONE' HAD BEEN OUTLINED IN INDIAN INK

This occiput has a true transverse occipital torus separating a greatly expanded planum occipitale (seven times the area of that in the chimpanzee) from a downward deflected, or quasi-horizontal, planum nuchale. The inion does not lie above the opisthocranium as in anthropoids, or coincide with it as in primitive human types, e.g. *Sinanthropus*, but lies well below it, simulating modern human types. There is a true 'Inca bone' (see fig. 1) such as occurs frequently in *Sinanthropus* and modern races of man but does not occur in anthropoids. The endocranial contours reproduce with great exactness the sagittal and horizontal sectional contours of the reconstruction made by Schepers for *Paranthropus* (volume 650 c.c.). *Australopithecus* was therefore a big-brained contemporary of the small-brained (circa 450 c.c.) *Plesianthropus*, whose geological age was probably much greater than that of *Paranthropus*, according to Broom.

As at Taungs, Sterkfontein and Kromdraai neither human bones nor stone implements have been found in this 'kitchen midden' at Makapansgat Limeworks. But here for the first time has been found the nearest approach to implements in an australopithecine deposit, viz. large ungulate humeri, whose cracked and broken epicondylar ridges suggest their having been employed as bludgeons. The broken epicondylar ridges of these humeri also correspond with the double-furrowed depressed fractures often found in the baboon (and in some of the australopithecine) skulls found at Taungs, Kromdraai and Sterkfontein, as well as at Makapansgat.

This new form, named from its 'kitchen midden' associations

*Australopithecus prometheus*, extends the habitat of this proto-human family from the fringe of the Kalahari desert in the south-west to the middle of the Transvaal bushveld and leaves no doubt about their audacious and skilful predatory habits and the troglodytic character of their existence, thus confirming in the most conclusive fashion the deductions drawn originally from the Taungs cavern breccia. Some of the australopithecine family apparently were also acquainted with the employment of fire as well as bone clubs and projectiles and had certainly made sufficient intellectual progress as hunters to destroy the most formidable and to subsist upon the largest and swiftest types of big game then living in South Africa.

RAYMOND A. DART

University of the Witwatersrand Medical School

**The Bolas and its Distribution.** Cf. MAN, 1948, 124

**165** SIR,—I am prepared to go even further than Professor Hutton in disliking ungrammatical bilingualism—I 'cavil at' the use of the expression 'a bolas' by anyone; but the word is firmly and historically established as a naturalized singular-plural, and there seems no help for it. I have already suggested that there should be no change for the English plural of the word, though the double solecism 'bolases' would have its advantages.

Bolas must be accepted with resignation, but bola is a terminological misfortune, since its legitimate plural is bound to clash at times with the singular, at least, of bolas. It seems to me that the only way, apart from total abandonment if that were feasible, is to hyphenate bola with a prefix, using a word having some descriptive value, even though this might emphasize the unjust boycotting of the word. The only words that have occurred to me so far are: 'short-bola' for striking weapons like the South American *bola perdida*; and 'long-bola' for entangling types with a 'lassoing' function like the Ancient Egyptian and modern Gilbert Islands forms (MAN, 1948, 113). The plurals of these words, as long as the hyphen was not forgotten, could not clash with 'bolas'. I do not admire the terms, but dislike of them even greater than my own may induce others besides Professor Hutton to carry their cavilling so far as to suggest better ones. The expression 'weighted cords' was, by the way, not suggested by me as anything more than a convenient and provisional descriptive term, pending further investigation into form, function and manner of use of such weapons, ending in an acceptable nomenclature and classification.

As to the *siriko* of New Guinea, I do not know how I could suppose that it could be used except as a missile, unless by assuming that it might be held in the hand. But this is perhaps because I cannot imagine myself wielding it in either way without amusing the dragonflies very much.

Mr. Burland (MAN, 1948, 125) has referred to another record of stones that might, or might not, have been bolas stones. I agree (and have indeed already suggested when referring to the *bola perdida*) that the 'short-bola' (let the term be used once) may well have formed the first step towards the bolas, and that this may have been independently evolved in different regions. The next step may have been the addition of a second and smaller weight at the proximal end to form a hand-grip or slip-stop (toggle). A potential two-weight bolas then existed, and discovery that it was efficient as an entangling weapon could lead to directional progress towards more efficient bolas types.

The chief reason for the writing of this letter is to 'sign off' from further discussion of this subject, which perhaps might be postponed until someone, with greater museum and library (or even field) facilities than I have myself, has made and published a full investigation, on Balfourian lines, of the whole subject of 'weighted cords.' The recent correspondence in MAN has shown, I think, that much of interest could be excavated from the literature, especially the foreign literature, and there are still details (e.g. dimensions and weights) of museum specimens that should be placed on record.

London

H. S. HARRISON



# MAN

## *A Monthly Record of Anthropological Science*

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**Ibo Headdresses Combining Human and Animal Features**  
(with Plate A and text figures)

*Kenneth Murray*

**A Note on Affinity Relationships among the Nuer**

*Professor E. E. Evans-Pritchard*

**Royal Anthropological Institute**

**Ancient Mining and Metallurgy Group : Preliminary Report, Part I**  
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- January 6. *Rain Shrines among the Plateau Tonga of Northern Rhodesia.* Miss E. Colson, Ph.D.  
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Climate and Early Man in Kenya  
(with Plate B and text figures)

*Professor F. E. Zeuner*

The *Guar* Festival of the Sawara

*Marguerite Milward*

Early Man in Mexico

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February 3. *The Social Function of Anthropology.* The Rev. Professor E. O. James, M.A., D.Litt., D.D., Ph.D., F.S.A.

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*Dr. Kenneth L. Little*

A Microlithic Industry in Eastern Mysore  
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- March 9. *Recent Discoveries of Fossil Hominoids in Africa (illustrated)*. Professor W. E. le Gros Clark, M.A., D.Sc., F.R.C.S., F.R.S.
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## MEETINGS OF THE ROYAL ANTHROPOLOGICAL INSTITUTE IN APRIL

### ORDINARY MEETINGS ON TUESDAYS AT 5 P.M. AT THE INSTITUTE

- April 6. *African Art and its Place in Art Tradition (illustrated)*. Leon Underwood.  
April 20. *The Prehistoric Cultures of the Zhab and the Indo-Iranian Connexion (illustrated)*. Colonel D. H. Gordon, D.S.O., O.B.E.

### SPECIAL MEETING

- April 13, at 8 p.m., at University College, Gower Street, W.C.1. *The Trumpets of Tut-Ankh-Amen (illustrated)*. Professor P. R. Kirby M.A., D.Litt.
- 

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# MAN

## *A Monthly Record of Anthropological Science*

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### **Shark-Tooth Wristlets in Oceania**

*A Technological Study*

*Adrian Digby*

### **The Waterproofing of a Test Skull and Measurement of its Water Capacity**

*Miss M. L. Tildesley*

### **'Pyramids' in the Upper Nile Region**

*P. P. Howell*

### **Proceedings of the Royal Anthropological Institute**

### **Reviews**

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- May 4 (at the Institute). Special Joint Meeting with the International African Institute. *The Village Headman in British Central Africa*. M. Gluckman, M.A., D.Phil., J. A. Barnes, D.S.C., M.A., J. C. Mitchell, B.A.
- May 11 (at the Royal Society, Burlington House, W.1). The Henry Myers Lecture, 1948. *Religious Belief and Personal Adjustment*. Professor Raymond Firth, M.A., Ph.D.
- May 25 (at the Institute). *Some Features of Social Structure among Sarawak Pagans*. E. R. Leach, M.A., Ph.D.

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The Fossil Men of Saccopastore and Circeo**

**Part I : Introduction and Description  
(with Plate F and text figures)**

*Professor Sergio Sergi*

**Chemical Properties of Human Hair as an Aid in Anthropological Work  
(with text figures)**

*G. J. E. Thijse*

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## MEETINGS OF THE ROYAL ANTHROPOLOGICAL INSTITUTE IN JUNE

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- June 1—*The Zemi Nagas* (lantern slides and film). Mrs. Ursula G. Betts, M.B.E.  
 June 8—*The Origin and Diffusion of Civilization*. Professor Pie Laviosa Zambotti.  
 June 22—Joint Meeting with the International African Institute. *The Secret Society as an Arbiter of Culture*. K. L. Little, M.A. Ph.D.  
 June 29—Annual General Meeting. Presidential Address: Professor Daryll Forde, Ph.D.

## INTERNATIONAL CONGRESS OF ANTHROPOLOGICAL AND ETHNOLOGICAL SCIENCES, BRUSSELS, 1948

### Important Notice

By the time this issue of *Man* reaches readers, the list of British anthropologists intending to attend the Congress, which has been compiled by the Royal Anthropological Institute from replies to the notice circulated with the May issue, will have been forwarded to the Bank of England. Those listed may now apply through their own banks for foreign exchange within the general conditions specified in that notice; banks will no doubt be in a position to give detailed information.

Any intending visitor who has not yet notified the Institute should do so immediately.

W. B. FAGG

Hon. Secretary, R.A.I.

# MAN

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**A Report on Excavations at Nsuta Hill, Gold Coast**  
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SIR JOHN MYRES, O.B.E., M.A., D.Sc., D.Litt., F.B.A., F.S.A.

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*Mikel Utsi*

**Some Remarks on Demographic Factors in a Situation  
of Culture Contact**  
*Dr. S. N. Eisenstadt*

**Proceedings of the Royal Anthropological Institute**

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**The Third International Congress of Anthropological and  
Ethnological Sciences: Brussels, August, 1948**

*A Tribute to our Belgian Hosts*

**Pressure Flaking in the Northern Kimberley, Australia  
(with Plate J)**

*Professor A. P. Elkin*

**Obituary**

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## MEETINGS OF THE ROYAL ANTHROPOLOGICAL INSTITUTE IN OCTOBER

On Tuesdays at 5 p.m.

- October 5. Special Meeting. *The Occurrence of Cults among 'Deprived' Peoples*. Miss Katherine Dunham. At University College, Gower Street, W.C.1.  
October 12. *The Beginnings of Art in Northern Nigeria* (illustrated). Bernard Fagg, M.A. At the Institute.  
October 26. *The Position of Women in a Bamenda Tribe, British Cameroons* (illustrated). Miss P. M. Kaberry, M.A., Ph.D. At the Institute.

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(with Plate K and a text figure)

*Bernard Fagg*

**On the Morphological Variety of Modern Greeks**

*Professor John Koumaris*

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## MEETINGS OF THE ROYAL ANTHROPOLOGICAL INSTITUTE IN NOVEMBER

On Tuesdays at 5 p.m.

- November 2. Special Joint Meeting with the International African Institute. *An Investigation into the Diet of the Zande of the Sudan*. Mrs. G. M. Culwick. At the Royal Anthropological Institute.  
 November 9. *The Discovery of a Palæolithic Skull in a Rock Shelter at Whaley, near Creswell, Derbyshire (illustrated)*. A. L. Armstrong, M.C., M.Sc., F.S.A., and Professor H. J. Fleure, D.Sc., F.R.S., F.S.A. At the Institute.  
 November 16. *Kahgyudpa: The White Sect of Lamaism*. Professor Li An-che. At the Institute.  
 November 23. Huxley Memorial Lecture. *Some Aspects of Political Organization among the American Aborigines*. Professor Robert H. Lowie, Ph.D. At the Royal Society, Burlington House, W.1.

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December 7. *Some Impressions of the Netherlands West Indies (illustrated)*. Miss Johanna Felhoen Kraal.

December 14. *Films of Lapland*. Lt.-Commander Douglas Dixon.

December 22. (Wednesday) Special Meeting in Commemoration of the One-Hundredth Anniversary of the Death of James Cowles Prichard. Professor Osman Hill and Mr. J. C. Trevor.

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The subscription for Full Members is 350 Belgian francs (or £2 2s.), for Associate Members 200 Belgian francs, payable by cheque to the Treasurer, or by transfer to the Postal Cheque Account of the Congress (C.C.P. No. 2321.71, Brussels).

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Communications should be submitted as typewritten synopses not exceeding 200 words before 1 June, 1948; the complete text, with illustrations, before 1 July. Provision will be made for slides, films and gramophone records.

All correspondence should be addressed to the Secretary, Musée du Congo Belge, Tervuren, Belgium.

*A fuller summary of the Second Circular will be published as a  
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Under the auspices of the Scottish Anthropological and Folklore Society, and in association with the Arts Council of Great Britain, a Festival of Folk Music and Folk Dance is being held in Edinburgh, from 28th June to 3rd July, 1948.

Musicians and dancers from various parts of Scotland, England, Ireland, Wales and the Isle of Man will be assembled in Edinburgh, and the programme includes morning sessions for the reading of papers on the origin, meaning and history of Folk Music and Folk Dance; evening sessions for Folk Dance Displays and a Concert; and open-air performances. A Folk Dance Ball will be held at the Music Hall on the evening of 28th June.

An Exhibition of material relating to Folk Music and Folk Dancing will be arranged at the Royal Scottish Museum, Edinburgh, during the period of the Festival. The material will be collected from various parts of the British Isles, and will be of very great interest.

Members of the Festival will be entitled to:—

- (1) Attend and speak at all Conferences.
- (2) To take part in the Folk Dance Ball, which will be restricted to members.
- (3) To have free admission to the public performance on Tuesday, 29th June, and reduced admission to the remaining performances on production of membership card.

*A copy of the Festival Handbook will be sent on payment of membership fee.*

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